

TOSHIBA

SERVICE MANUAL

DATAPROJECTOR

TDP-MT400

Preface

This manual is applied to Toshiba S80/S81/SW80/MT200/T80/T90/T91/TW90/T98/T90A/T91A/TW90A DMD Projector with digital imaging functionality based on Digital Micro-mirror Device (DMD) technology. It is the mode of single Panel, 200 Watt Lamp. The manual gives you a brief description of basic technical information to help in service and maintain the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Notice:

The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

Toshiba Series Service Manual

Copyright September, 2005

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Manual Version 8.0

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Introduction

1-1 Product Highlights

| Item | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | One panel 0.7 XGA / 12° DDR DMD projection system | V | V | V | V | V | | | | | | | | |
| | One panel 0.55" XGA / 12° DDR DMD projection system | | | | | | V | V | V | V | V | | V | V |
| | One panel 0.65" 12° DDR DMD projection system | | | | | | | | | | | V | | |
| 2 | 200 Watt compact P-VIP Lamp (user replaceable, Lamp is driven by 200 Watt lamp driver) | V | V | V | V | V | | V | V | V | | | | |
| | Phoenix X66 200W SHP Lamp (user replaceable) | | | | | | V | | | | | V | | |
| | 200 Watt compact UHP Lamp, Lamp is driven by 200 Watt lamp driver) | | | | | | | | | | V | | V | V |
| 3 | High efficiency cooling system with low system acoustic noise level (35 dB(A) in 160W eco-mode) | V | V | V | V | V | V | | | | V | V | V | V |
| | High efficiency cooling system with low system acoustic noise level (35 dB(A) in 150W eco-mode) | | | | | | | V | V | V | | | | |
| 4 | Light weight Approx. 2.8Kgs. | V | V | V | V | V | V | V | V | V | V | | V | V |
| | Light weight Approx. 2.8Kgs. | | | | | | | | | | | V | | |
| 5 | Manual focus projection, 1:1.2 mechanical zoom lens | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 6 | True 1024 x 768 resolution, 16.7M True colors | V | V | V | V | V | | | | | V | | V | V |
| | True 854 x 480 resolution, 16.7M True colors | | | | | | V | | | | | | | |
| | True 800 x 600 resolution, 16.7M True colors | | | | | | | V | V | V | | | | |
| | True 1024 x 576 resolution, 16.7M True colors | | | | | | | | | | | V | | |
| 7 | With up, down, left, and right screen reverse | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 8 | Build-in full screen NTSC / PAL / SECAM video capability with S-video / Composite / component through D-sub | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 9 | SXGA / XGA / SVGA / VGA / MAC compatibility with two D-Sub 15 pin VGA connector input terminal | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 10 | Auto image re-sizing to 1024 x 768 full screen | V | V | V | V | V | | | | | V | | V | V |
| | Auto image re-sizing to 854 x 480 full screen | | | | | | V | | | | | | | |
| | Auto image re-sizing to 800 x 600 full screen | | | | | | | V | V | V | | | | |
| | Auto image re-sizing to 1024 x 576 full screen | | | | | | | | | | | V | | |
| 11 | Auto detection of computer signal input | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 12 | Auto Image synchronization (Auto-tracking / frequency / position adjustment) by Auto-setting key. | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 13 | Freeze function. | V | V | V | V | V | V | V | V | V | V | V | V | V |

| Item | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|--|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 16 | Automatically saves adjustments for future use | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 17 | IR remote control function | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 18 | Adaptive voltage control fan speed | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 19 | Auto & Manual Digital Vertical Keystone Correction | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 20 | Built-in one 1W speaker | V | V | V | | V | V | | | | V | | | |
| | Built-in one 2W speaker | | | | V | | | V | V | V | | | V | V |
| 21 | Camera | | | V | | | | | V | | | | V | |
| 22 | Wireless | | | | | V | | | | V | | | | V |

1-2 Mechanical Specifications

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|----------------------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Dimensions (WxHxD) | 298x267x100.5 mm (main body) | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 2 | Weight | Approx. 6.3 lbs. (2.86kg) | V | V | V | V | V | V | V | V | V | V | | V | V |
| | Weight | Approx. 6.3 lbs. (2.88kg) | | | | | | | | | | | V | | |
| 3 | Cooling System | - Advanced air flow - Two fans with low system acoustic noise level - Temperature control circuits with adaptive voltage control fan speed - Maximum touch temperature follows UL 60950 regulation | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 4 | Tilt Angle | 6.8 degree with elevator mechanism | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 5 | Keystone correction | +/-16 degree Vertical | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 6 | Lamp Door Protection | Lamp power supply shut off automatically when door open | V | V | V | V | V | V | V | V | V | V | V | V | V |

1-3 Display Panel Specifications

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|-----------------------|--|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Type | DMD (0.7 12 degree DDR XGA Digital Mirror Device) | V | V | V | V | V | | | | | | | | |
| | | DMD (0.55" 12 degree DDR WVGA Digital Mirror Device) | | | | | | V | V | V | V | V | | V | V |
| | | DMD (0.65 12 degree DDR Digital Mirror Device) | | | | | | | | | | V | V | | |
| 2 | Number of active dots | 1024(H) x 768 (V) | V | V | V | V | V | | | | | V | | V | V |
| | | 854(H) x 480(V) | | | | | | V | | | | | | | |
| | | 800(H) x 600(V) | | | | | | | V | V | V | | | | |
| | | 1024(H) x 576(V) | | | | | | | | | | V | V | | |

1-4 Electrical Specifications

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|---------------------------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Power Supply | - Input AC 100-240V~, 3A, 50-60 Hz with PFC - Variance FAN speed control (Depend on temperature variant) | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 2 | Terminals | - Computer Input (VGA) - Composite Video Input (x 1) - S-Video Input (Standard x 1) - RS232 (Mini-Din 8pin x 1) | V | V | V | V | V | V | V | V | V | V | | V | V |
| 3-1 | Terminals & I/O connector | - Computer Analog Input (VGA x 1) - Component Video Input (RCAx 3) - S Video Input (Mini-Din 4-Pin x 1) - Composite Video Input (RCA x 1) - RS232 (Mini-Din 8pin x 1) | V | V | V | V | V | V | V | V | V | V | | | |
| 3-2 | Terminals & I/O connector | - Digital Video with HDCP Input (DVI-D) | | | | | | V | | | | | V | | |
| 3-3 | Terminals & I/O Connector | - USB (Mini B type) | | | | V | | | | | | V | | V | V |

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|---------------------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 4 | Input signal spec. | - Hsync Frequency 15~100 kHz | V | V | V | V | V | V | V | V | V | V | | V | V |
| | | - Vsync Frequency 43~85 Hz | | | | | | | | | | | V | | |
| | | - Hsync Frequency 31.35~68.7kHz | | | | | | | | | | | | | |
| | | - Vsync Frequency 56~85Hz | | | | | | | | | | | | | |
| 5 | Video Compatibility | - Video Signal RGB (PC) | | | | | | | | | | | | | |
| | | 1.) Analog RGB : 0.7 Vp-p, 75 ohm | | | | | | | | | | | | | |
| | | 2.) Analog RGB : 1Vp-p, 75 ohm | | | | | | | | | | | | | |
| | | 3.) Sync. Signal | | | | | | | | | | | | | |
| 6 | XGA / Compression | Separate Sync : (HV) TTL level (bi-polarity) | V | V | V | V | V | V | V | V | V | V | V | V | V |
| | | Composite Sync : TTL level (bi-polarity) | | | | | | | | | | | | | |
| | | Sync-on-green : negative sync. 0.3Vp-p | | | | | | | | | | | | | |
| | | - Video | | | | | | | | | | | | | |
| 7 | Video Compatibility | 1.) Composite video : 1Vp-p, 75 ohm | | | | | | | | | | | | | |
| | | 2.) S-video Luminance : 0.714Vp-p, 75 ohm | | | | | | | | | | | | | |
| | | 3.) Chrominance : 0.286Vp-p, 75 ohm | | | | | | | | | | | | | |
| | | - Standards : | | | | | | | | | | | | | |
| 8 | Video Compatibility | NTSC : M(3.58 MHz), 4.43 MHz | V | V | V | V | V | V | V | V | V | V | V | V | V |
| | | PAL : B, D, G, H, I, M, N | | | | | | | | | | | | | |
| | | SECAM : B, D, G, K, K1, L | | | | | | | | | | | | | |
| | | HDTV : 480i / 576i ; 480p / 576p ; 720p ; 1080i | | | | | | | | | | | | | |
| 6 | XGA / Compression | By using DDP2000 Chips to compress SXGA image into XGA display | V | V | V | V | V | | V | V | V | V | | V | V |
| | WVGA / Compression | By using "DDP2000" Chips to compress SXGA image into WVGA display | | | | | | V | | | | | V | | |

1-5 Optical Specifications

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW91A |
|------|-----------------------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Projection lens | F#2.4-2.65 @ 2.4m, f=28.04~35.59mm @ 2.4m. 1.2X Manual Zoom Lens. | V | V | V | V | V | V | | | | | | | |
| | | F#2.4-2.81 @ 2.4m, f=22.34~26.59mm @ 2.4m. 1.2X Manual Zoom Lens. | | | | | | | V | V | V | | | | |
| | | F#2.75-3.0 @ 2.4m, f=22.25~26.69mm @ 2.4m. 1.2x Manual Zoom Lens. | | | | | | | | | | V | | V | V |
| | | F#2.5-2.8 @ 2.4m, f=22.25~26.69 mm @ 2.4m. 1.2X Manual Zoom Lens. | | | | | | | | | | | V | | |
| 2 | Projection Image Size | Adjustable from 24.6" to 246" (Diagonal) | V | V | V | V | V | V | V | V | V | | | | |
| | | Adjustable from 30.75" to 246" (Diagonal) | | | | | | | | | | V | | V | V |
| | | Adjustable from 35.66to 285.89(Diagonal) | | | | | | | | | | | V | | |
| 3 | Throw Distance | 1.2m~10m | V | V | V | V | V | V | V | V | V | | | | |
| | | 1.5m~10m | | | | | | | | | | V | V | V | V |
| 4 | Throw Ratio | 2.0~2.4 ; 100" / 4.06m ~ 4.88m | V | V | V | V | V | V | V | V | V | V | | V | V |
| | | 1.58~1.9 | | | | | | | | | | | V | | |
| 5 | Brightness | 1850(Typical) ; 1600 (Minimum) | V | V | V | | V | | V | V | V | | | | |
| | | 2250(Typical) ; 1900 (Minimum) | | | | V | | | | | | | | | |
| | | 1800(Typical) ; 1600 (Minimum) | | | | | | | | | | V | | V | V |
| | | 650(Typical) ; 510 (Minimum) | | | | | | V | | | | | | | |
| | | ANSI* Lumens 700 (Typical) 590 (Minimum) | | | | | | | | | | | V | | |
| 6 | Contrast | Full on / off 1600 :1 (Typical) 1000 : 1 (Minimum) | V | V | V | | V | | V | V | V | | | | |
| | | JBMA 1600 : 1 (Typical) 1000 : 1 (Minimum) | | | | | | | | | | | | | |
| | | Full on / off 1800:1 (Typical) 1000 : 1 (Minimum) | | | | V | | | | | | V | | V | V |
| | | JBMA 1800 : 1 (Typical) 1000 : 1 (Minimum) | | | | | | | | | | | | | |
| 7 | Uniformity | Full on / off 2500:1 (Typical) 1500 : 1 (Minimum) | | | | | | V | | | | | V | | |
| | | JBMA 75% (Typical) 60% (Minimum) | V | V | V | V | V | | V | V | V | V | | V | V |
| 8 | Lamp | JBMA 80% (Typical) 65% (Minimum) | | | | | | V | | | | | V | | |
| | | OSRAM E17.5 200W P-VIP Lamp | V | V | V | V | V | | | | | | | | |
| | | Phoenix X66 200W SHP Lamp | | | | | | V | | | | | V | | |
| | | Philips E19 200W UHP Lamp | | | | | | | V | V | V | | | | |
| 9 | Lamp | Philips E19V 200W UHP Lamp | | | | | | | | | | V | | V | V |
| | | | | | | | | | | | | | | | |

1-6 Environmental Specifications

| Item | Specification | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|----------------------|---|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Temperature | Operating : 0~35°C, 80% humidity, non-condensing Storage : -20~60°C, 80% humidity, non-condensing | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 2 | Maximum Humidity | Operating : 0~35°C, 80%RH (Max.), non-condensing Storage : -20~60°C, 80%RH (Max.), non-condensing | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 3 | Acoustic noise level | 39 dB(A) (in 216W mode, at 23+/- 2°C) 35 dB(A) (in 160W eco mode, at 23 +/- 2°C) while color wheel are running with 7200 rpm | V | V | V | V | V | | | | | V | | V | V |
| | | 38 dB(A) (in 200W mode, at 23+/- 2°C) 35 dB(A) (in 160W eco mode, at 23 +/- 2°C) while color wheel are running with 7200 rpm | | | | | | V | | | | | V | | |
| | | 39 dB(A) (in 200W mode, at 23+/- 2°C) 35 dB(A) (in 150W eco mode, at 23 +/- 2°C) while color wheel are running with 7200 rpm | | | | | | | V | V | V | | | | |
| 4 | Altitude | Operating : 0°C~35°C for height : 0~2,500 ft 0°C~30°C for height : 2,500~5,000 ft 0°C~30°C for height : 5,000~10,000 ft an speed adjusted by OSD menu Storage : 0~40,000 ft | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 5 | MTBF | Operating more than 10,000 hours | V | V | V | V | V | V | V | V | V | V | V | V | V |
| 6 | Reliability Test | 12,000 hours | V | V | V | V | V | V | V | V | V | V | V | V | V |

1-7 Firmware

| Item | Description | T80 | T90 | T91 | T98 | TW90 | MT200 | S80 | S81 | SW80 | T90A | MT400 | T91A | TW90A |
|------|-------------|-----|-----|-----|-----|------|-------|-----|-----|------|------|-------|------|-------|
| 1 | Firmware A | V | | | | | | | | | | | | |
| 2 | Firmware B | | V | | | V | | | | | | | | |
| 3 | Firmware C | | | | | | V | | | | | | | |
| 4 | Firmware D | | | | | | | V | V | V | | | | |
| 5 | Firmware E | | | V | | | | | | | | | | |
| 6 | Firmware F | | | | V | | | | | | | | | |
| 7 | Firmware G | | | | | | | | | | V | | V | V |
| 8 | Firmware H | | | | | | | | | | | V | | |






Note: The Firmware B, C, D, E, F, G, H aren't the revision of Firmware A. The letter "A~H" indicates that each Firmware is used for specific models (with a check in the blank). That is, Firmware A is totally different from Firmware B. This rule also stands true for Firmware C~H.

(1) T90 & TW90 implement the same Firmware.

(2) S80, S81 & SW80 implement the same Firmware.

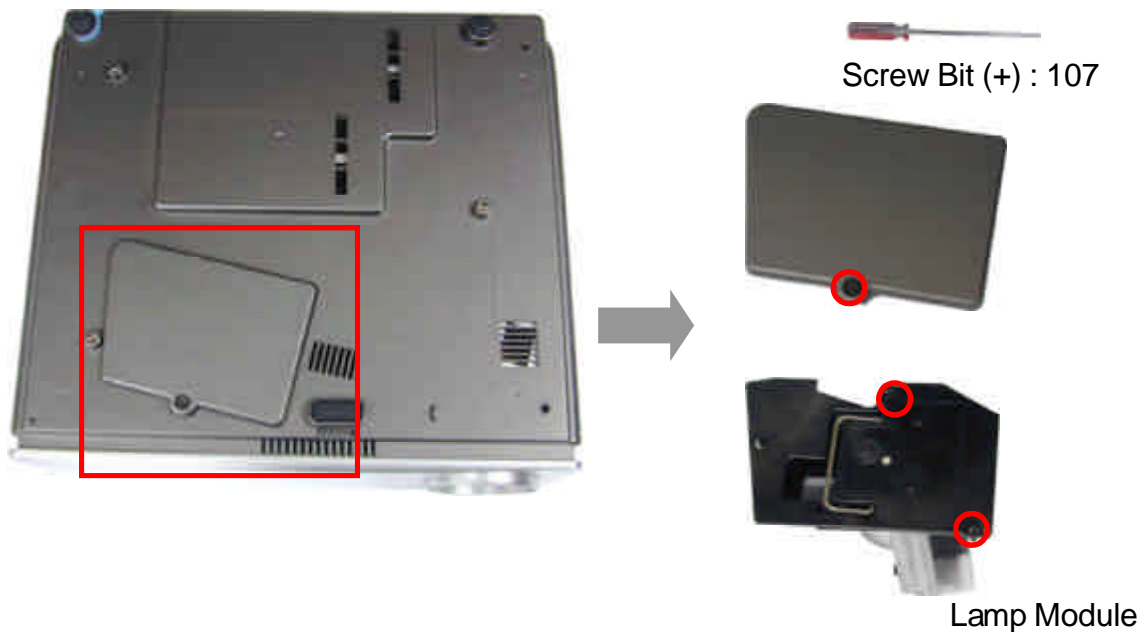
Disassembly Procedure

Equipment Needed

| Ite m | P h o t o |
|-------------------------------------|---|
| S c r e w B i t (+) : 1 0 7 |  |
| S c r e w B i t (+) : 1 0 2 |  |
| H e x S l e e v e s 8 m m |  |
| H e x S l e e v e s 5 m m |  |
| B a l l - e n d h e x - k e y 2 m m |  |

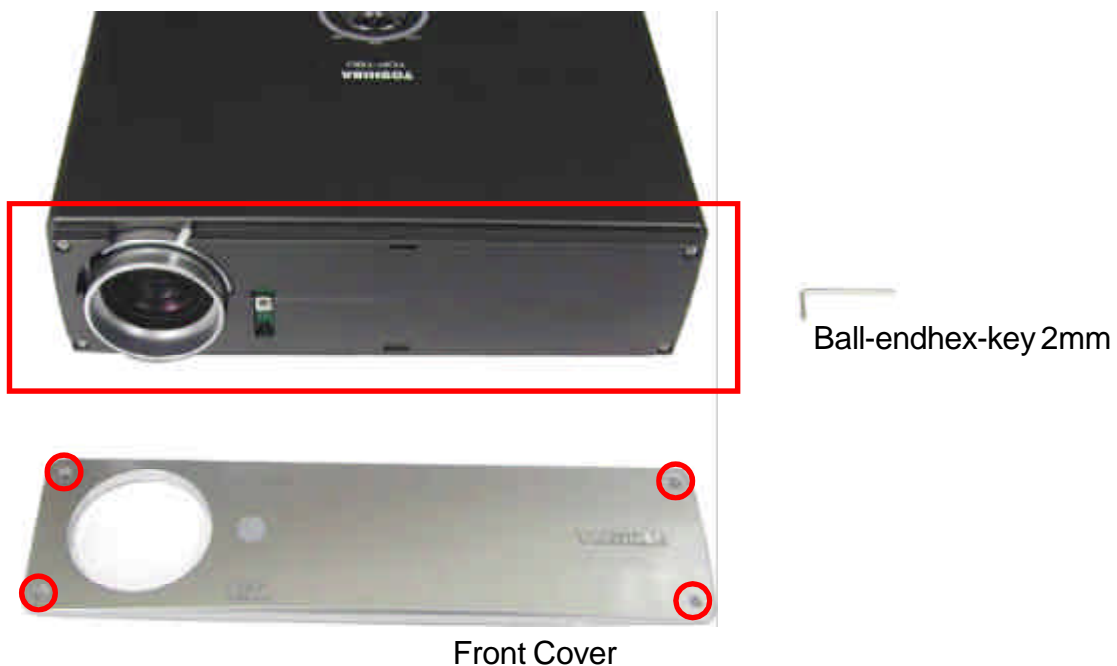
2-1 Removing Lamp Module

1. Unscrew 1 screw to remove the Lamp Cover, and then unscrew 2 screws to remove the Lamp Module.




2-2 Removing Front Cover, Option Cover and Rear Cover Module

1. Unscrew 4 screws to remove the Front Cover.



2. Unscrew 2 screws to remove the Option Cover.




 Screw Bit (+) : 107



Option Cover (Blank) PC + ABS - CAOLA

3. Unscrew 6 hex screws and 2 screws to remove the Rear Cover Module.



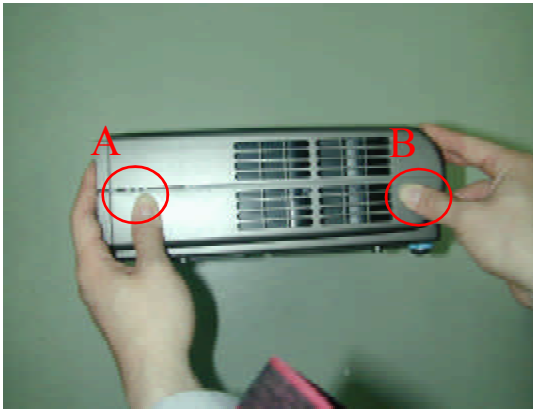
 Screw Bit (+) : 102



Rear Cover Module

2-3 Removing Top Cover, Keypad Board, Speaker and Select Button Module

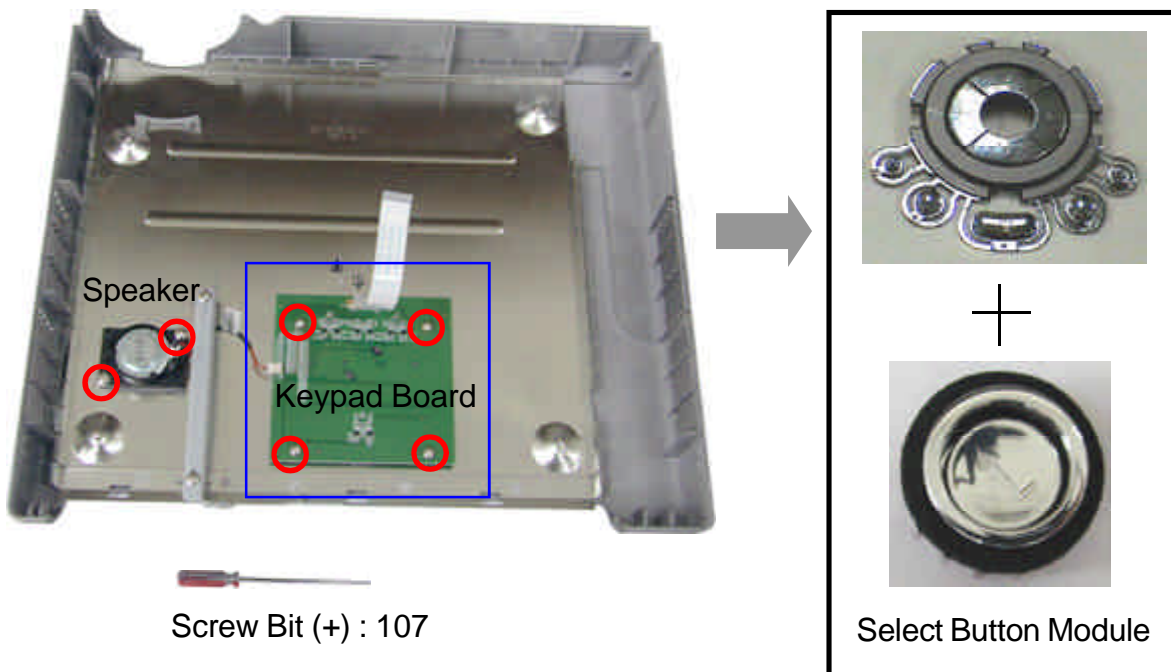
1. Press point A; then press point B to separate the Top Cover and the Main Body carefully.



2. Unplug the FFC cable to remove the Top Cover.

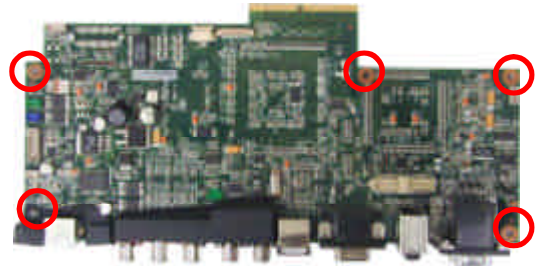


3. Unscrew 6 screws to remove the Keypad Board, Speaker and Select the Button Module.



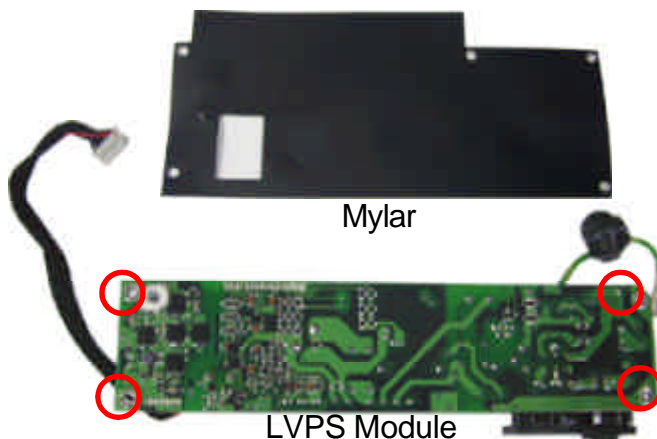
2-4 Removing Main Board, LVPS Module, Lamp Driver Module and Fan Module

1. Unplug all cables and unscrew 5 screws to remove the Main Board.



Screw Bit (+) : 107

2. Tear off Mylar and then unscrew 5 screws to remove the LVPS Module.



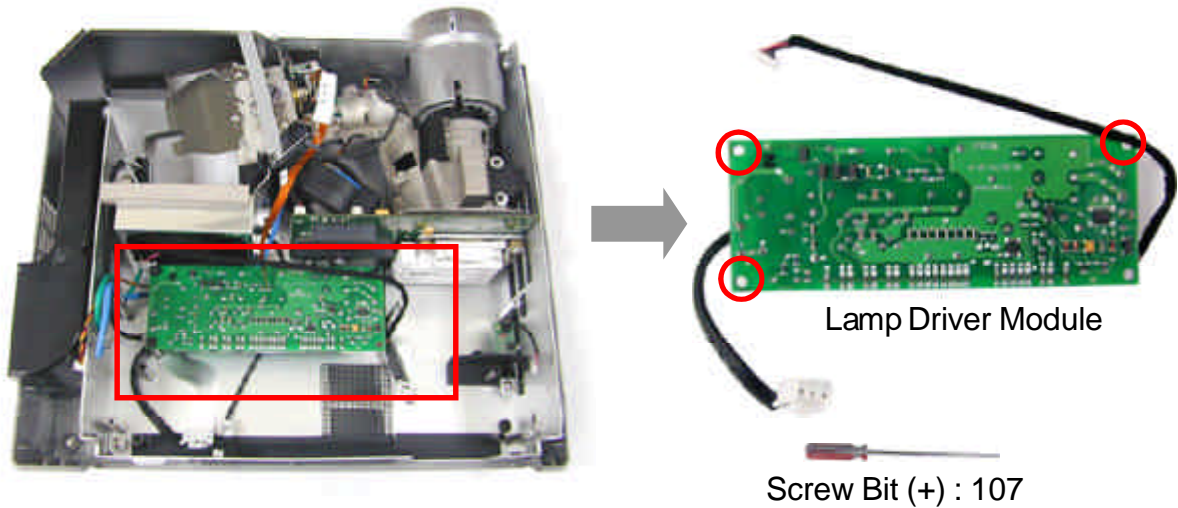
Mylar

LVPS Module

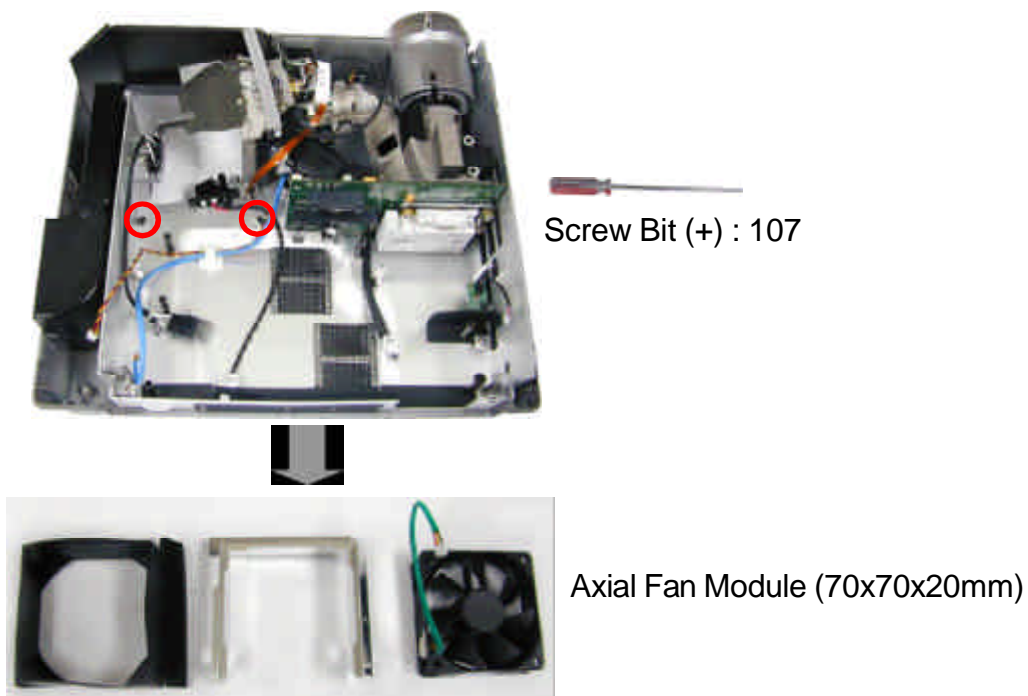


Screw Bit (+) : 107

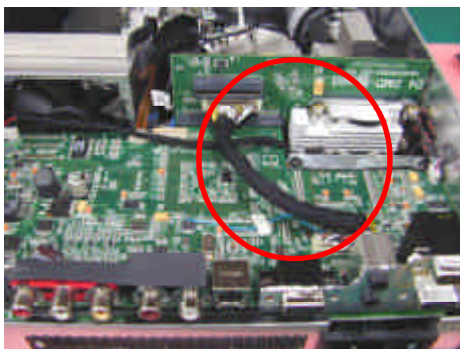
3. Unscrew 3 screws to remove the Lamp Driver Module.



4. Unscrew 2 screws to remove the Fan Module.

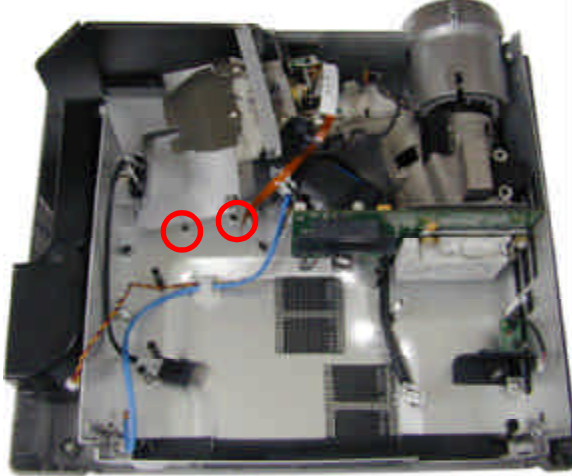


Note: TW90- Add 1 cable to link wireless function from the Main Board of TW90.
(As the picture display)



2-5 Removing Interrupter Switch, Engine Module, Fan Module and DMD Board

1. Unscrew 2 screws to remove the Interrupter Switch.

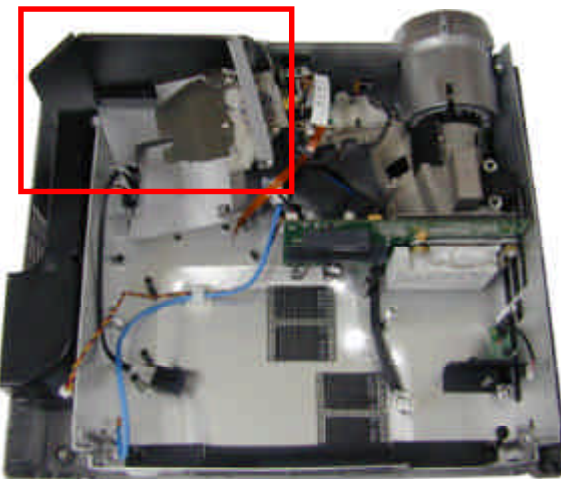


Screw Bit (+) : 102



Interrupter Switch

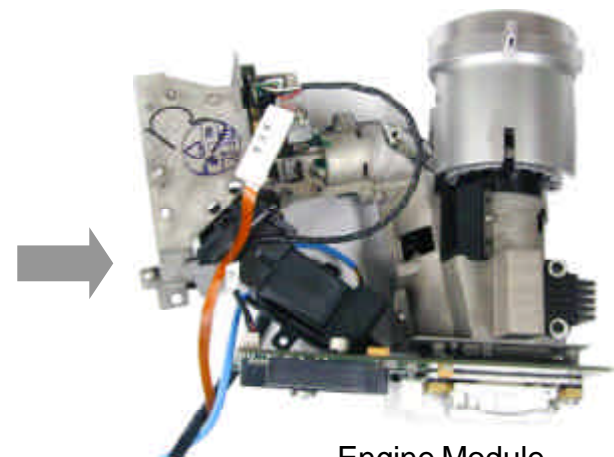
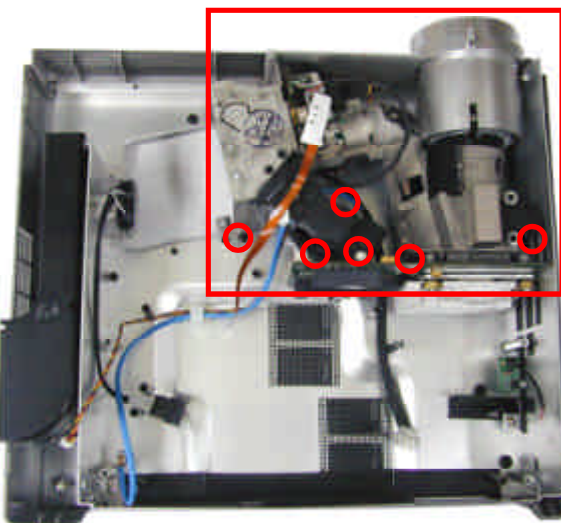
2. Tear off the Deflector Tinplate and then unscrew 5 screws to remove the Brackets.



Screw Bit (+) : 102

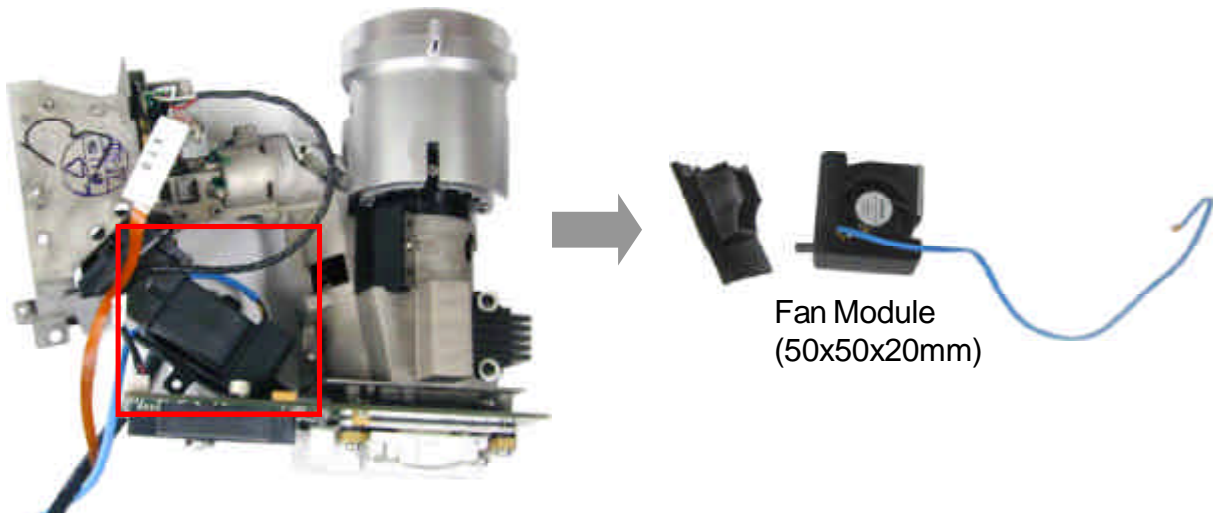


3. Unscrew 6 screws of the red rectangle area and then remove the Engine Module.

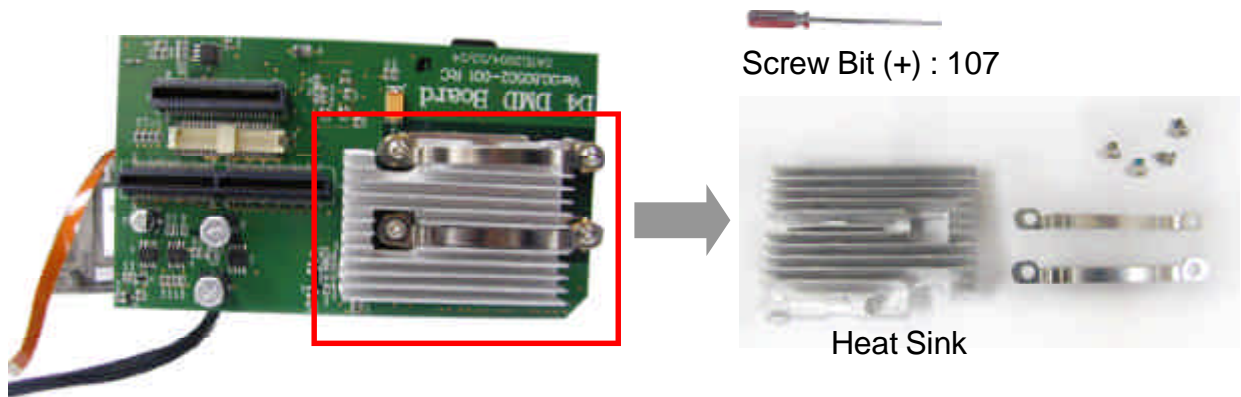


Screw Bit (+) : 107

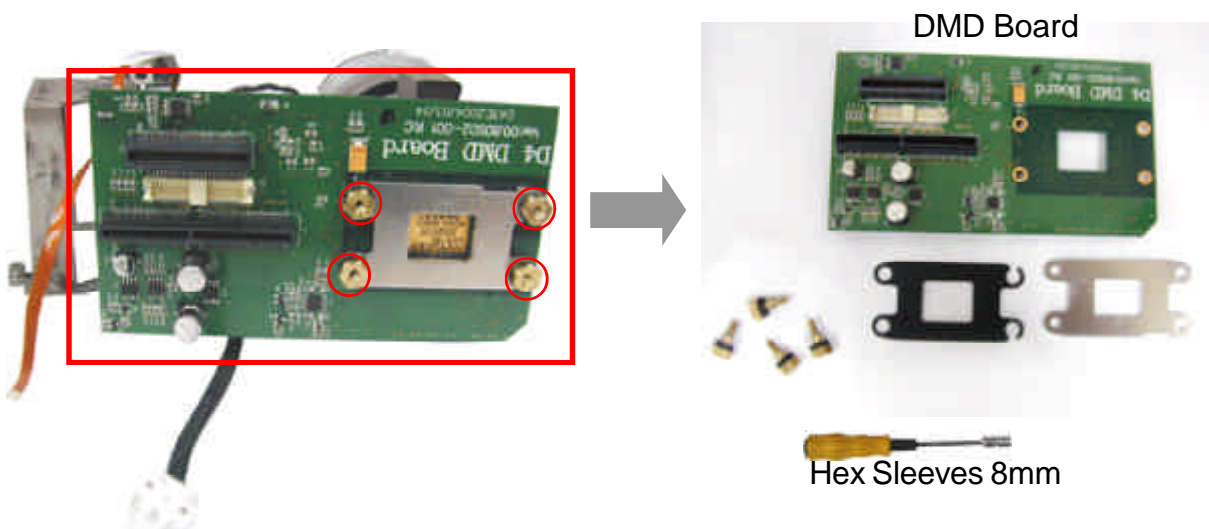
4. Remove the Fan Module.



5. Unscrew 4 screws to remove the Heat Sink.

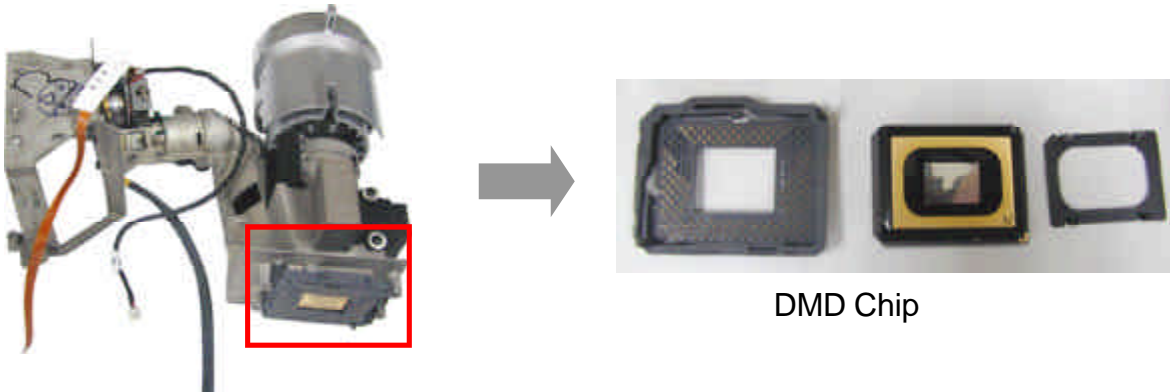


6. Unscrew 4 hex screws to remove the DMD Board.

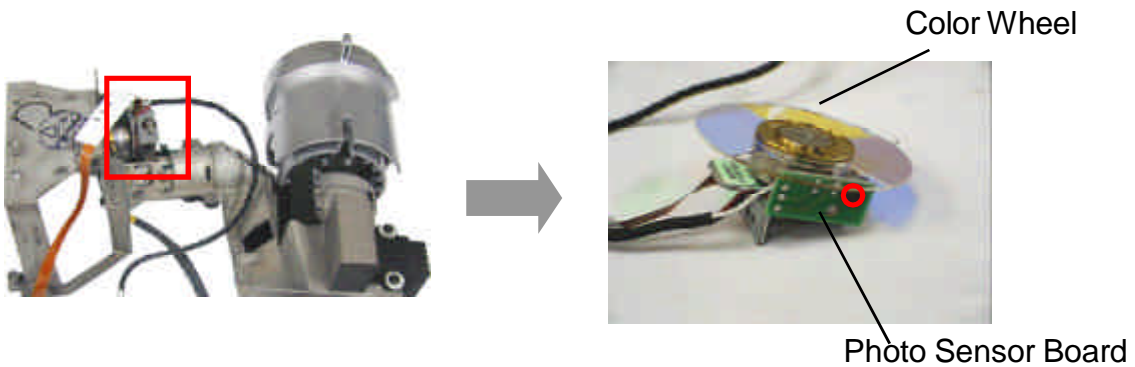


2-6 Removing DMD Chip, Color Wheel and Photo Sensor Board

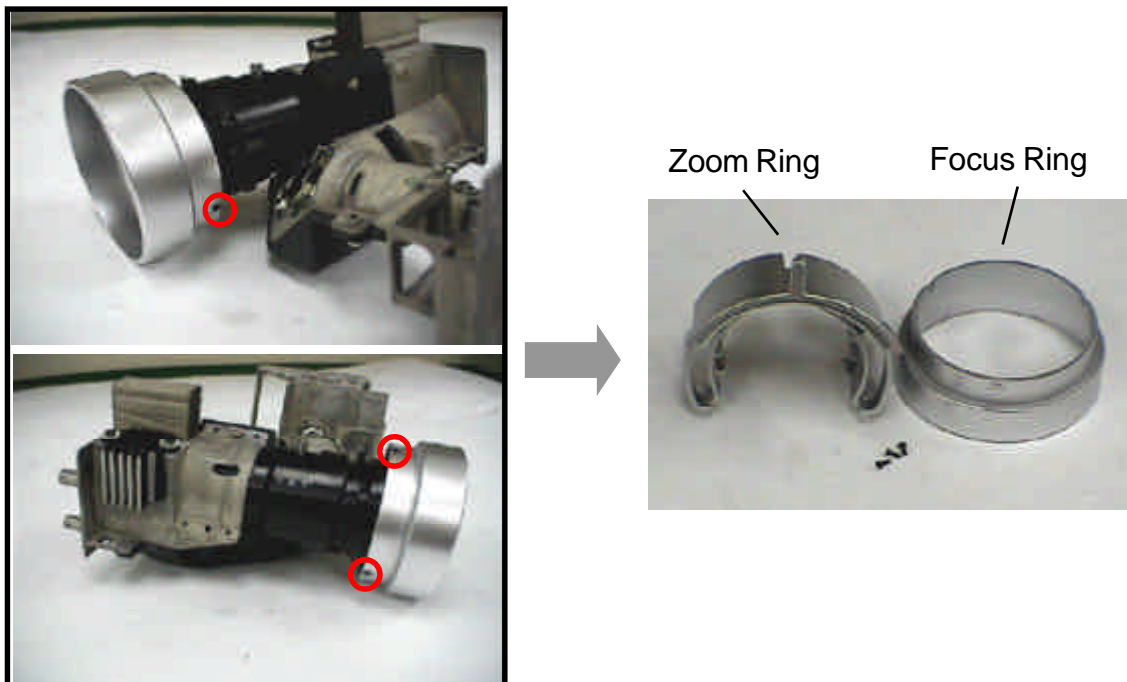
1. Remove the DMD Chip from the Engine Module.



2. Unscrew 1 screw to remove the Color Wheel and the Photo Sensor Board.

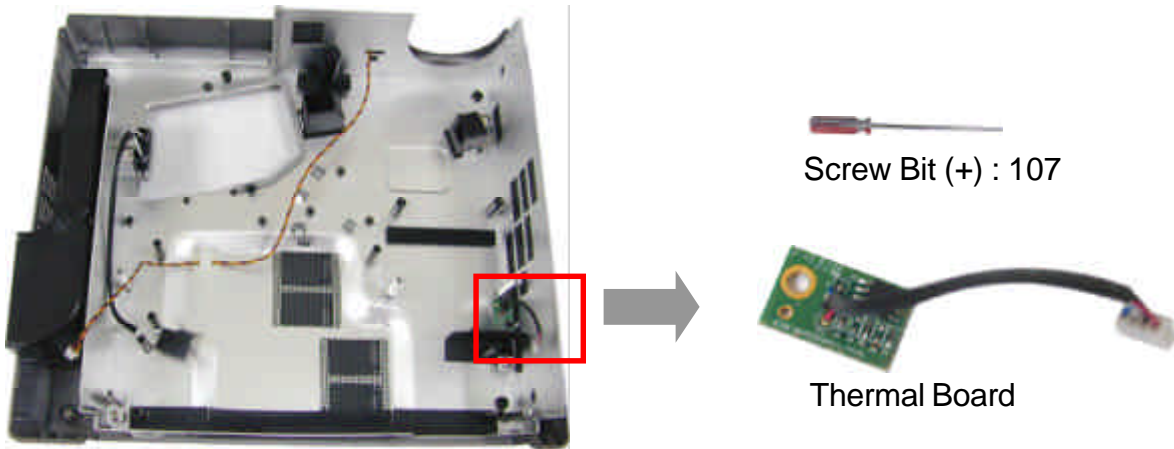


3. Unscrew 3 screws to remove the Zoom Ring and the Focus Ring from the Engine Module.

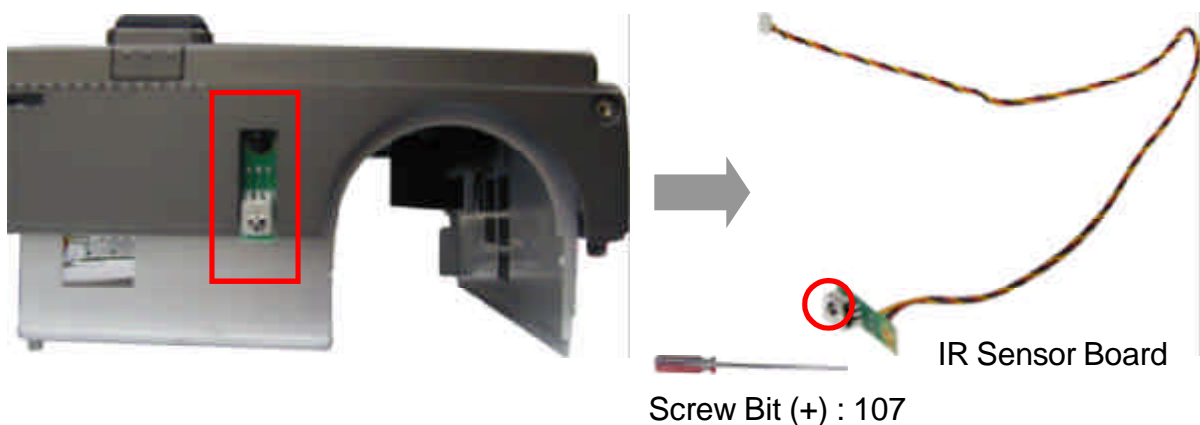


2-7 Removing Thermal Board, IR Sensor Board and Fan Duct

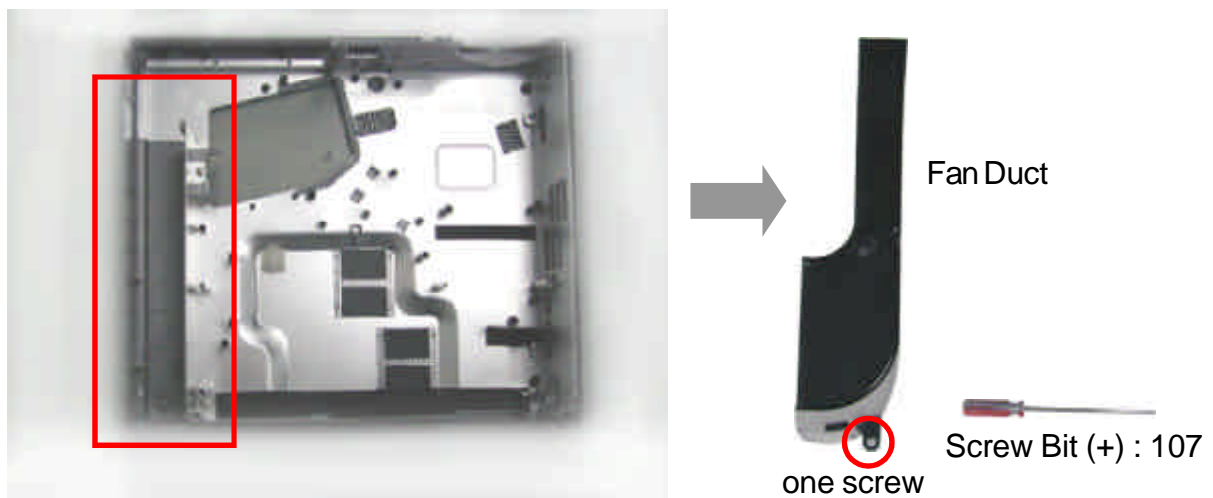
1. Unscrew 1 screw to remove the Thermal Sensor Board.



2. Turn over the Bottom Cover Module; then, unscrew 1 screw to remove the IR Sensor Board.



3. Unscrew 1 screw to remove the Fan Duct from the Bottom Module.



2-8 Removing Wireless Board (For TW90 Only)

1. Unscrew 2 screws to remove the Option Cover.



Option Cover



2. Pull out the Wireless Board.



Troubleshooting

3-1 Equipment Needed

- T80 / T90 / T91 / T98 / TW90 / MT200 / S80 / S81 / SW80/T90A/T91A/TW90A
MT400 Projector
- PC (Personal Computer)
- CD Player, DVD Player
- VGA to VGA Cable
- Chroma

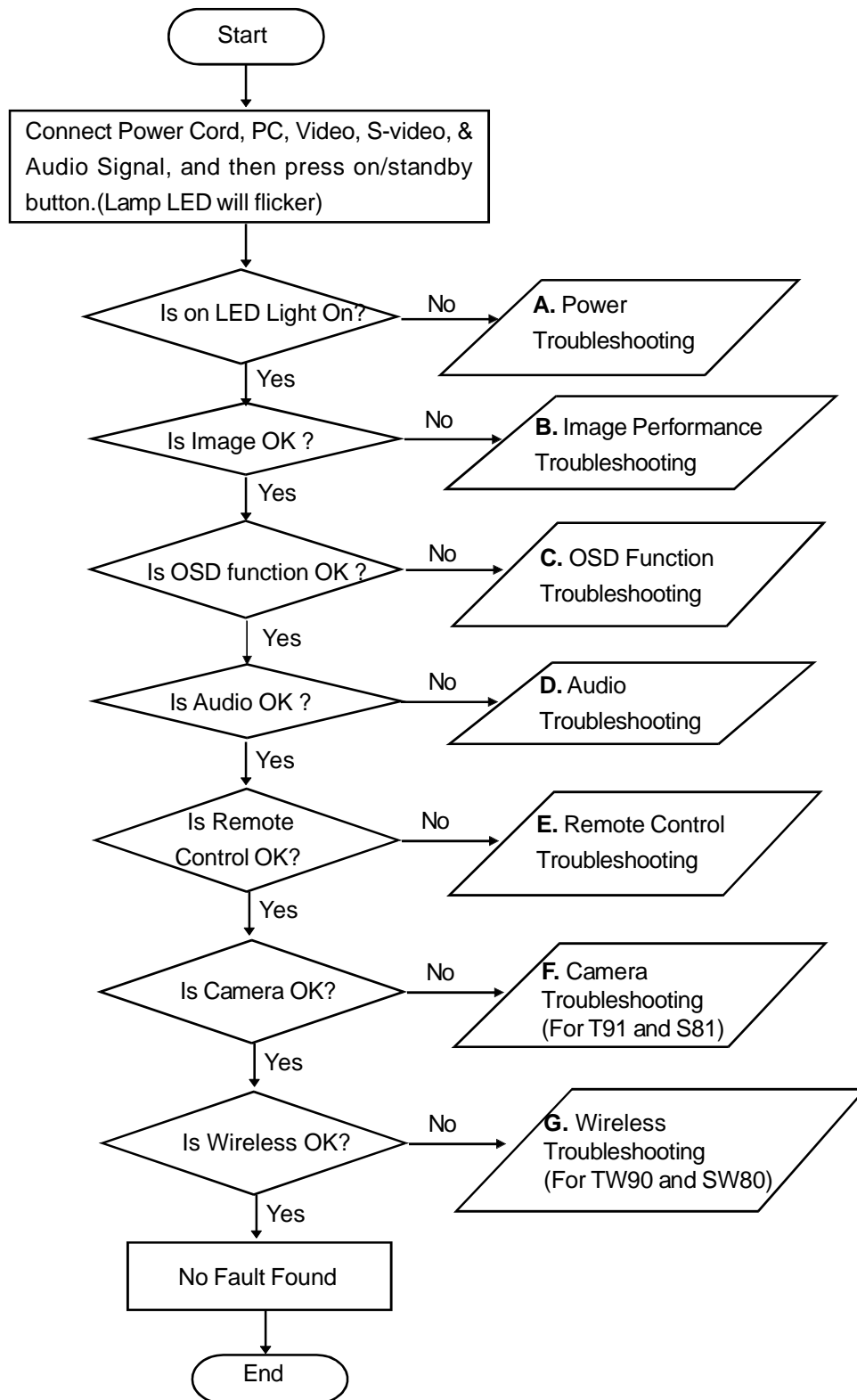
After changing parts, check the below information.

For example : Change the M/B, then check the Version Update, Color Wheel Index, RGB Level, Frequency, Phase, Reset Lamp Use Time and Reset All.

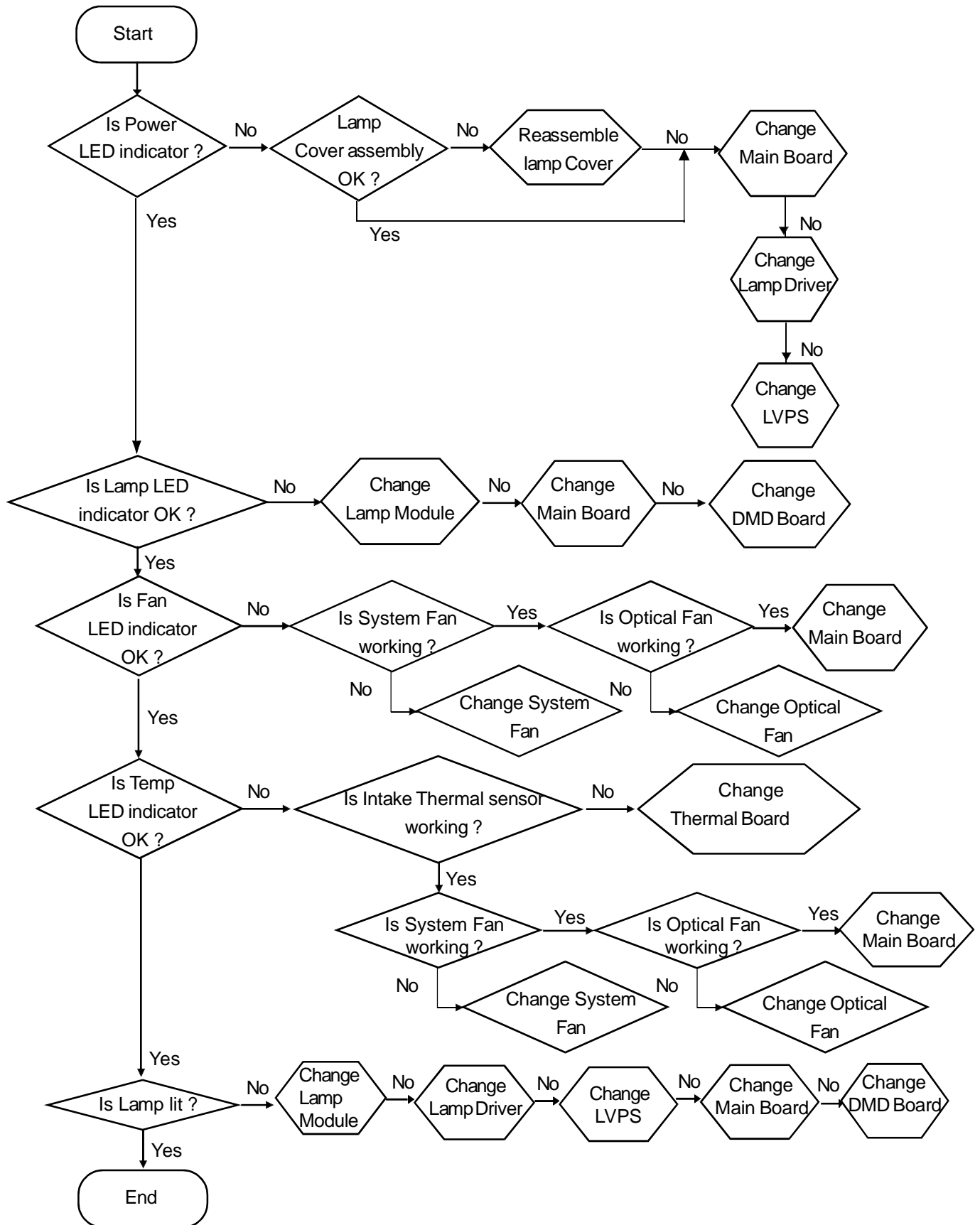
| Update\ Change Parts | Version Update | Color Wheel Index | RGB Level | Frequency | Phase | Reset Lamp Use Time | Reset All | Keystone Calibration (For T90 Series) |
|----------------------|----------------|-------------------|-----------|-----------|-------|---------------------|-----------|---------------------------------------|
| M/B | V | V | V | V | V | | V | V |
| Firmware | V | V | V | V | V | | V | V |
| DMD Board | | V | | | | | V | |
| Engine | | V | | | | | | |
| Lamp Module | | | | | | V | | |
| LVPS | | | | | | | | |
| Lamp Driver | | | | | | | | |

- 1.) Version Update : Refer Chapter 3-4 Hot Key, item 5
- 2.) Color Wheel Index : Refer Chapter 3-4 Hot Key, item 7
- 3.) RGB Level : a. Press "Menu" button on the keypad to enter OSD function.
b. Press "UP" or "Down" button to select Image Adjustment Menu.
- 4.) Frequency : Press "Setup" button, then adjustment from "Frequency" mode.
- 5.) Phase : Press "Setup" button, then adjustment from "Phase" mode.
- 6.) Reset Lamp Use Time : Refer Chapter 3-4 Hot Key, item 3
- 7.) Reset All : Press "Menu" --> Default Setting Menu.

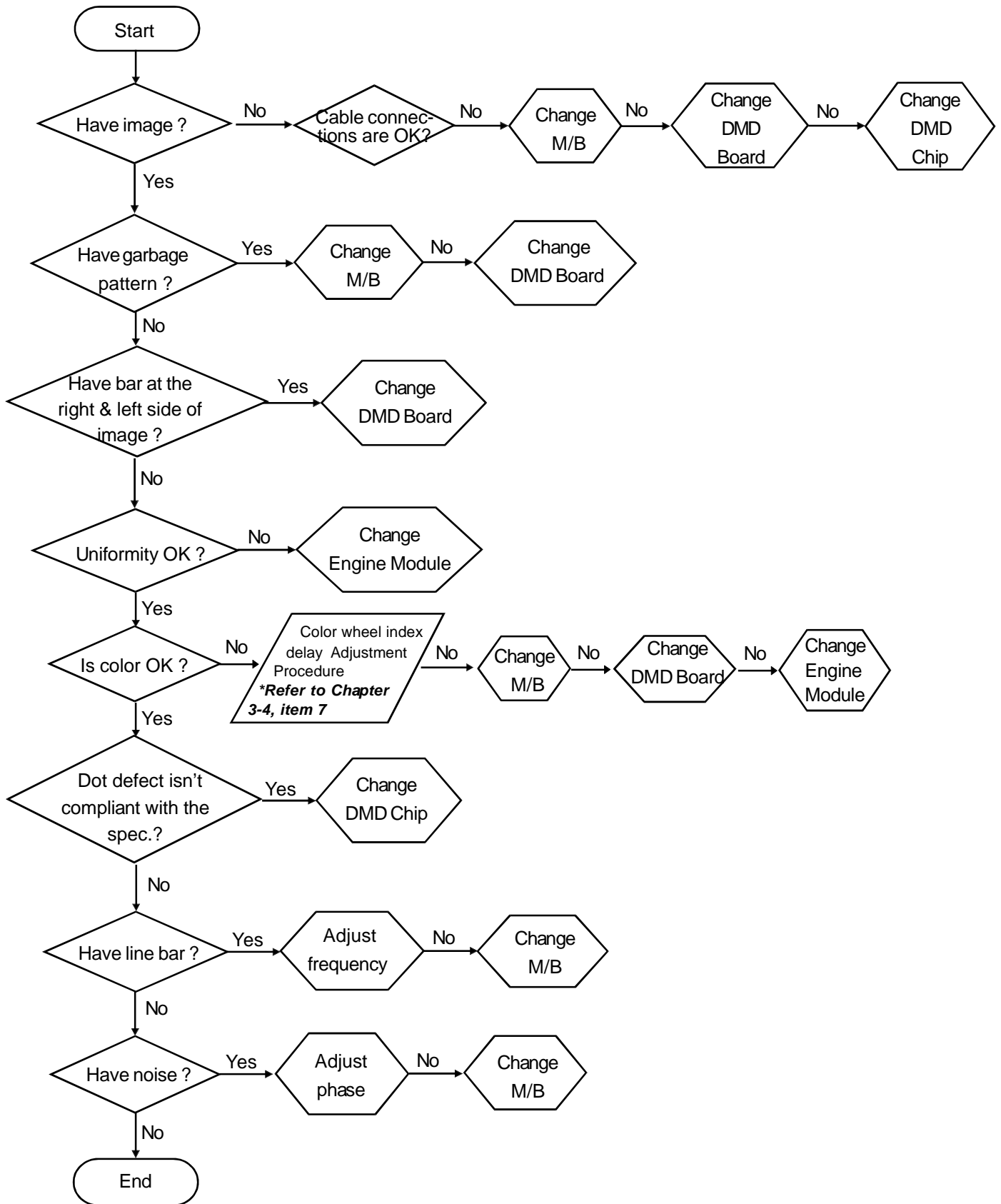
3-2 Main Procedure



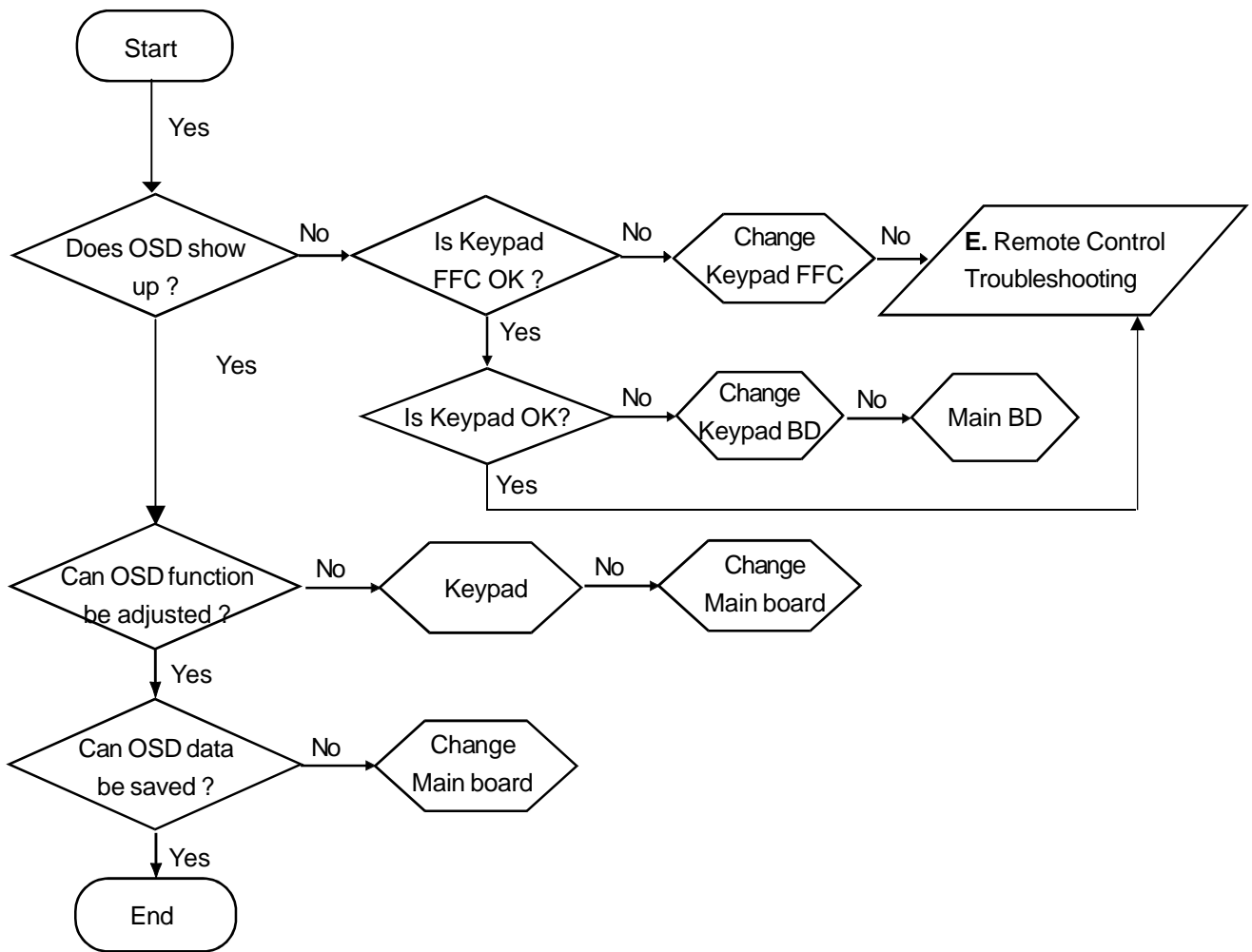
3-2.1 A. Power Troubleshooting



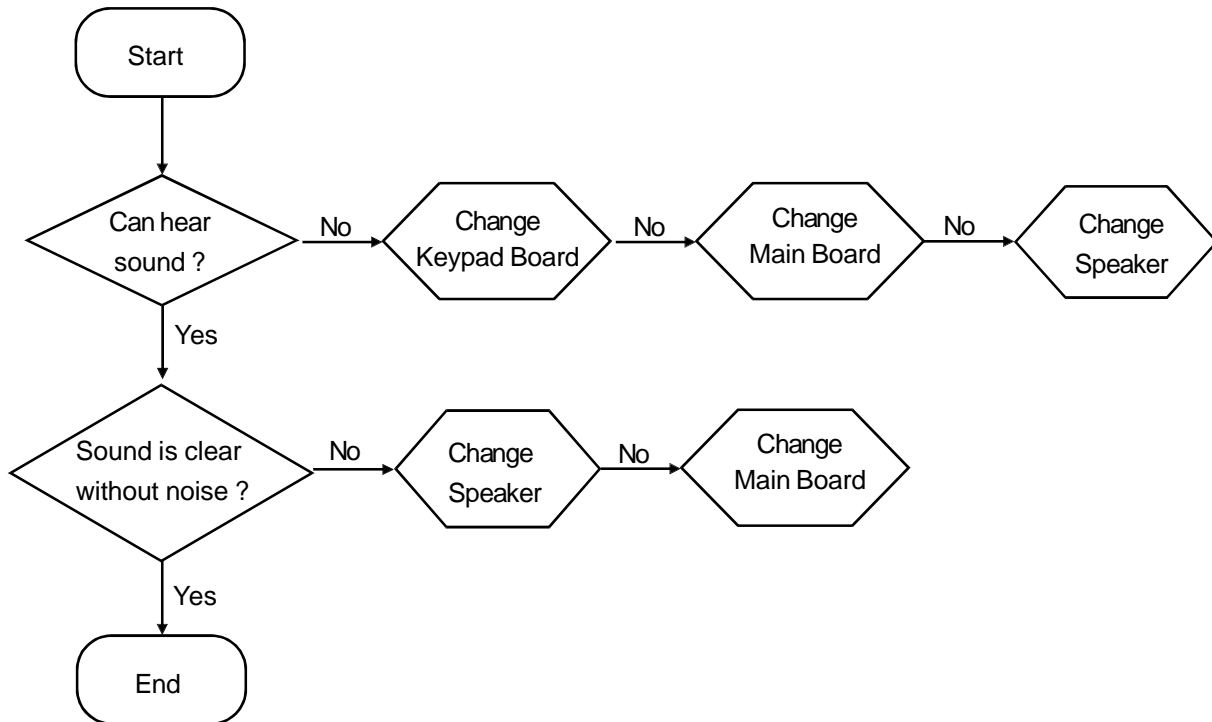
3-2.2 B. Image Performance Troubleshooting



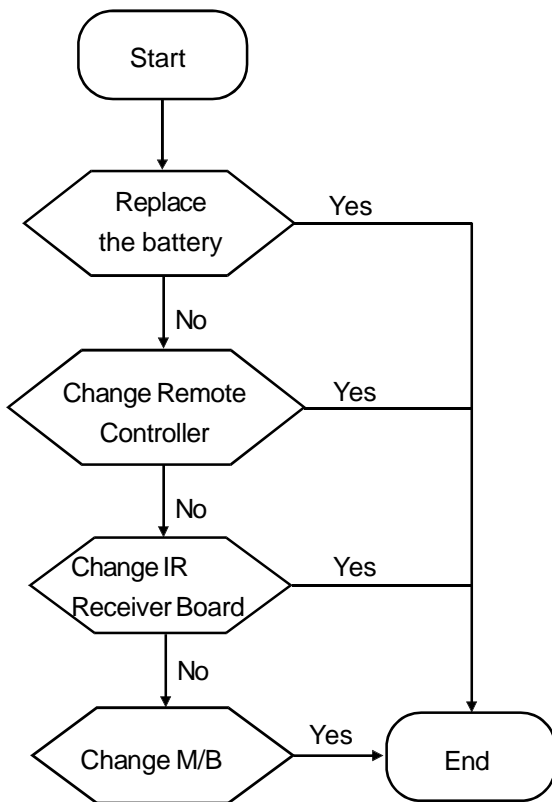
3-2.3 C. OSD Function Troubleshooting



3-2.4 D. Audio Troubleshooting



3-2.5 E. Remote Control Troubleshooting



3-3 Main Procedure Description

A. Power Troubleshooting

- 1.) No Power
 - Check the Power Cord.
 - Check the Lamp door.
 - Ensure the keypad cable is well connected.

Judge

- Change LVPS or Main BD

- 2.) No Light
 - Lamp LED Indicator Fail
 - Check all wires are well connected inside.
 - Check Lamp Module

Temp LED Indicator Fail

- Turn on Main Power again.
- Check the Fan Module.
- Check the Thermal BD.
- Check the Thermal Switch.

Judge

- Change Lamp Driver or Main BD.

B. Image Troubleshooting

- 1.) No image on the screen.
 - Ensure the signal cable and source are working fine.
 - Press “Input” button to re-catch the signal again..
- Judge
- Change Main BD or DMD BD or DMD Chip
- 2.) The image displayed with color issue
 - Ensure the signal cable and source are working fine.
 - Check the I/O connector
 - Check Main BD if the image displayed without color abnormal issue when you input the signal with other ports.
 - Check the photo sensor BD if the image displayed with color flicking issue.

Judge

- Adjust the RGB offset. ^{*Note}
- Adjust the color wheel index delay. (Refer to 3-4.5 CW index delay menu)
- Change Main board.

Note :

Press “Menu” button to enter setting display. Adjust the R-level, G-level, B-level.

- 3.) The image displayed with picture noise issue.
- Press "INPUT" button to re-catch the signal again.
 - Check the signal cable.
 - Check Main BD if there is no picture noise issue when you input the signal with the other connector.
- Judge
- Change Main board.
- 4.) The image displayed with Dead Pixel/Line issue.
- Check the DMD chip if the bright dot issue when you input the signal.
- Judge
- Change DMD board or DMD chip.
- 5.) The image displayed with focus issue.
- Adjust the focus ring.
 - Ensure the projection distance is in spec.
- Judge
- Change Optical Engine Module
- 6.) The image displayed with flicker issue.
- Check the Lamp Module
 - Ensure the signal cable works well.
 - Press "INPUT" button to re-catch the signal again.
- Judge
- Change Main board or DMD board.
- 7.) The image displayed with uniformity issue.
- Ensure the projection lens is clean.
 - Replace the lamp if the brightness is less than spec.
- Judge
- Change the Optical Engine Module.
- 8.) The image displayed with line bar issue.
- Check if the line bar issue that can be fixed by "Frequency" function of OSD menu or not.
- Judge
- Change Main board.

C. Audio Troubleshooting

- 1.) No Sound
- Press "VOL-" or "VOL+" button on the keypad and check if the mute function is enabled.
 - Check Main BD if there is audio sound output when you input the audio signal with other ports.
 - Check the speaker
- Judge
- Change Keypad BD

- 2.) The audio sound is output with noise
 - Check the sound volume.
 - Check the speaker.
- Judge
- Change Main Board.

D. Remote Control Troubleshooting

- 1.) The OSD menu cannot show on the screen when you press the menu button on the remote controller.
 - Replace the new battery if there is no laser output when you press the laser button on the remote controller.
 - Replace a new remote controller if there is OSD menu showing on the screen when you press the menu button on the keypad.
 - Check the Main BD if there is no function when you press the function button on the keypad.

E. Wireless Troubleshooting (for TW90, SW80 and TW90A)

- 1.) Execute "Reset all" (in OSD menu) if the wireless function is not activated.
Note: Normally the background color is blue when the projectors are in standby mode (no any input source)
- 2.) Check the PC settings.
- 3.) Check the Projector setting. (Refer to Chapter 4, P4-10 Wireless Testing Procedure)
Judge
 - Change Wireless Card and Wireless BD.

F. Camera Troubleshooting (for T91, S81 and T91A)

- 1.) Check if the Projector is normal. (Note : Don't connect Camera for testing.)
- 2.) Check if VGA Cable is OK.
Judge
 - Change Camera Module.

3-4 Factory Mode

Hot Keys to enter Factory Mode (T80, T90, T91, T98, S80, S81, T90A,T91A) (For TW90, TW90A & SW80, it should have signal input)

[Press Volume button, set value to 9 and press “On/Standby”, “Input” and “Setup” button simultaneously.]

Repeat the above-mentioned procedure in the bracket three times.

Hot Keys to enter Factory Mode (MT200, MT400)

[Press the “ON/STANDBY” button and then press “Set up”, “Input” and “Up” (▲) buttons simultaneously.]

Repeat the above-mentioned procedure in the bracket three times.

1. Press “INPUT” and “Up” button *simultaneously* to enter the keystone calibration menu.
2. Press “INPUT” and “Down” button to enter Burn-in mode menu.
3. Press “INPUT” and “Right” button to enter test pattern menu.
4. Press “Return” and “Up” button to enter Display the service status.
5. Press “Return” and “Left” button to enter Display the CW index delay menu.

3-4.1 Keystone calibration menu (Except MT200, MT400) (Press “INPUT” and “UP” button simultaneously to enter the keystone calibration menu)

| | | | |
|-----|-----|-------|-------|
| KC0 | xxx | xxxxx | xxxxx |
| KC1 | xxx | xxxxx | xxxxx |
| KC2 | xxx | xxxxx | xxxxx |
| KC3 | xxx | xxxxx | xxxxx |

Note :

There should be values in keystone calibration menu; otherwise Auto keystone and Auto setting will not function.

Key :

| | |
|---------|-------------------------------|
| Up/Down | Choose an item with cursor |
| Enter | Execute automatic calibration |
| Setup | Initialize adjustment values |

a.) Horizontal calibration

Requirement:

Put the projector on the stand which is horizontally and is not tipped (0 +/- 0.1 degree)

Procedure:

Choose KC0.

Execute automatic calibration.

If adjustment is successfully completed, values will change from default value “0”.

If it failed, values don't change.

b.) Upward calibration

Requirement:

Put the projector on the stand which is tipped at upward more than 30 degree.

Procedure:

Choose KC1.

Execute automatic calibration.

If adjustment is successfully completed, values will change from default value "0".

If it failed, values don't change.

c.) Downward calibration

Requirement:

Put the projector on the stand which is tipped at downward more than 30 degree.

Procedure:

Choose KC2.

Execute automatic calibration.

If adjustment is successfully completed, values will change from default value "0".

If it failed, values don't change.

d.) Horizontal calibration after heat-run

Requirement:

Put the projector on the stand which is horizontally and is not tipped (0 ± 0.1 degree)

Procedure:

Choose KC3.

Execute automatic calibration.

If adjustment is successfully completed, values will change from default value "0".

If it failed, values don't change.

e.) Save data to E2PROM

Procedure:

Push Up/Down/Left/Right at the same time.

If these key inputs are accepted, all LEDs light orange.

3-4.2 Burn in mode menu

(Press Hot Keys; then, press “Input”+”Down” key simultaneously)

| | | | | |
|--------------|--------|-----------|-----|---------|
| Burn-in mode | | On | Off | |
| On time | | xxxxM | | |
| Off time | | xxxxM | | |
| | | Setting | | Elapsed |
| Cycle | | xxx | | xxx |
| Elapsed time | xxxxxH | | xxM | xxS |
| Error count | xxx | Shut down | | xxx |
| Error log | xx xx | xx | xx | xx |
| | xx xx | xx | xx | xx |

Key :

| | |
|------------|-----------------------------------|
| Up/Down | Choose an item with cursor |
| Left/Right | Adjust a value / Choose a setting |
| Setup | Initialize adjustment values |

a.) Burn in mode setting

Procedure :

Choose the burn-in mode.
Select a setting.

b.) Burn in on time setting

Procedure :

Choose the on time.
Adjust a value.
Range is from 0 to 1275 minutes (5 minutes step).
0 means no on-time in the burn in mode.

c.) Burn in off time setting

Procedure :

Choose the off time.
Adjust a value.
Range is from 0 to 1275 minutes (5 minutes step).
0 means no off-time in the burn in mode.

d.) Burn in cycle setting

Procedure :

Choose the cycle.
Adjust a value.
Range is from 1 to 255 and INF which means infinity.

e.) **Save setting to EEPROM**

Procedure :

Push Up / Down / Left / Right at the same time.

If there key inputs are accepted, all LEDs light orange.

Besides, these settings are saved automatically when turning off the projector.

Notes :

If settings are valid, the burn in mode will start when the projector becomes the standby mode. Test patterns during the burn in mode are rotated on white, black, red, green and blue solid fields. The On LED blinks during the burn in mode.

Pushing the return key will cancel execution of the burn in mode.

When the burn in mode finishes, the projector becomes the standby mode automatically.

3-4.3 Test pattern menu

(Press Hot Keys; then, press “Input”+”Right” key simultaneously)

Start-up
White
Black
Red 255
Green 255
Blue 255
Blue 60
Gray 60
Gray 30
Gray 10
Gray 7
Yellow
Magenta
Cyan
Two Zone Blue 60
Two Zone Gray 60
Cross Hatch
Focus
V-Ramp

Key :

| | |
|-----------|---------------------------------|
| Up / Down | Choose an item with cursor |
| Enter | Display a test pattern |
| Return | Return to the test pattern menu |

Notes :

This menu is for test use.
No value will be saved.

3-4.4 Service status

(Press Hot Keys; then, press “Return”+”Up” key simultaneously)

| | | | |
|-----------------|----------------------------|---------------|---------------------|
| Version | xxxx-xxxx | | |
| User lamp time | xxxxxH-xxM-xxS | xxx | |
| Panel time | xxxxxH-xxM-xxS | xxx | |
| Total time | xxxxxH-xxM-xxS | | |
| Sub B | xxx-xxx-xxx | Sub C | xxx-xxx-xxx |
| KC0 | xxx-xxxxx-xxxxx | KC1 | xxx-xxxxx-xxxxx |
| KC2 | xxx-xxxxx-xxxxx | KC3 | xxx-xxxxx-xxxxx |
| Fan1 | xxxxxRPM | Fan2xxxxx RPM | Fan3 xxxxxRPM |
| Temp1 | xxxdeg | Temp2 | xxxdeg Temp3 xxxdeg |
| Engine No. | xxxxxxxxxxxx | Altitude | x |
| C/W delay index | xxx | DMD bias | xxx |
| Error count | xxx | Shut down | xxx |
| Error log | xx-xx-xx-xx-xx-xx-xx-xx-xx | | |

Notes :

The service status OSD is displaying factory settings. There is no item which can be operated. Right side numbers of the user lamp time and the panel lamp time mean reset counters of them.

The altitude is a setting of the fan high mode (Range is from 0 to 6).

The error count is the sum of all error counts.

A number in the error log means an error ID.

3-4.5 CW index delay menu (includes the DMD bias voltage) (Press Hot Keys; then, press “Return”+”Left” key simultaneously)

| | | |
|------------------|----|-----|
| C/W index delay | x | |
| DMD bias voltage | x | |
| White peaking | x | |
| Gamma table | x | |
| CSC table | x | |
| GAM | On | Off |
| CSC | On | Off |

Key :

| | |
|--------------|-----------------------------------|
| Up / Down | Choose an item with cursor |
| Left / Right | Adjust a value / Choose a setting |
| Setup | Initialize adjustment values |

a.) CW index adjustment

Procedure :

Choose the C/W index delay.

Adjust a value.

Range is from 0 to 719.

Default value is 200.

Test Pattern : RGBW 64 scale.

b.) DMD bias voltage adjustment

Procedure :

Choose the DMD bias voltage.

Adjust a value.

Range is from B to E.















DMD Chip Default value is E.

c.) Save data to EEPROM

Procedure :

Push Up / Down / Left / Right at the same time.

If these key inputs are accepted, all LEDs light orange.

| ID | Type | LED Pattern | Manual | Description | Detection Time |
|-------------------------------|---------------------|---|--------|---|----------------|
| Normal Operating Group | | | | | |
| - | Standby |  | - | Standby state | - |
| - | Normal |  | - | Powered normal state | - |
| - | Displaying Image |  | - | Blinking 3 times just before displaying a image | - |
| - | Save Factory Data |  | - | Saving the factory data by the special key during the special mode | - |
| - | Cooling 1 |  | - | In this cooling state, any operations are not acceptable | - |
| - | Cooling 2 |  | - | In this cooling state, only turning-on is acceptable | - |
| Error Group | | | | | |
| - | Hang-up |  | 0 | Nonavoidable hang-up | - |
| 1 | Lamp Turn On Error |  | 0 | A lamp doesn't turn on T9x : Detection by UART / S2x : Detection by the status line | 4.5 - 5.0 sec |
| 4 | Fan Speed Error 1 |  | 0 | A speed of fan spinning is too slow (<= 1000 RPM) T9x : System Fan / S2x : DMD & Lamp Fan Also, when M62334 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |
| 5 | Fan Speed Error 2 |  | 0 | A speed of fan spinning is too slow (<= 1000 RPM) T9x : Lamp Fan / S2x : Ballast Fan Also, when M62334 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |
| 6 | Fan Speed Error 3 |  | 0 | A speed of fan spinning is too slow (<= 1000 RPM) T9x : Optical Fan / S2x : Power Fan Also, when M62334 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |
| 8 | Temperature Error 1 |  | 0 | Temperature is too high (> T9x : 45 / S2x : 55 degree C) or too low (< -40 degree C) T9x : Intake Temperature Sensor / S2x : Intake Temperature Sensor Also, when G751 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |
| 9 | Temperature Error 2 |  | 0 | Temperature is too high (> 90 degree C) or too low (< -40 degree C) T9x : Board Temperature Sensor / S2x : Lamp Temperature Sensor Also, when G751 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |
| 10 | Temperature Error 3 |  | 0 | Temperature is too high (> 90 degree C) or too low (< -40 degree C) T9x : Reserved definition / S2x : DMD Temperature Sensor Also, when G751 doesn't reply to I2C commands, this error will occur | 7.0 - 13.0 sec |

Error detections are running during powered normal state.
In the burn in mode, ON LED is always blinking.

O : ON / L : LAMP / T : TEMP / F : FAN

 : Lit LED

 : Blinkd LED

Function Test & Alignment Procedure

4-1 Product

- T80 / T90 / T91 / T98 / TW90 / MT200 / S80 / S81 / SW80/ T90A/T91A/TW90A/ MT400

4-2 Test Equipment

- IBM PC with SXGA resolution (Color Video Signal & Pattern Generator)
- DVD player with component video(Y, Pb, Pr) and Multi-system(NTSC / PAL / SECAM)
- HDTV Tuner or Source (480i, 480p, 720p, 1080i)

4-3 Test Condition

- Circumstance Brightness :
 - a. Dark room less than 10 lux for functional inspection.
 - b. Circumstance brightness over than 500 lux for external inspection.
- Inspection Distance :
About 2.44m for functional inspection
(The projection distance has to be based on the screen size of 60 inches)
- Screen Size : 60 inches diagonal (wide)
- Each model should be cooling for 1 minutes after the run-in test.
 - 1.) In room temperature
 - 2.) With cycled display color (R,G,B,White)
- Test Display Mode & Pattern (Refer to 4-4.1 & 4-4.2)
- Function test and alignment procedure
- Run-in Time :
After changing all materials
 - 1.) For LVPS and Lamp Driver, it will run-in 2 hours.
 - 2.) For DMD BD, Main BD, Thermal BD and Engine, it will run-in 4 hours.

4-4 Test Display Modes & Pattern

4-4.1 Compatible Modes

T80/T90/T91/T98/TW90 Computer Compatibility (Analog)

| Compatibility | Resolution | V-Sync(Hz) | H-Sync(KHz) |
|---------------|------------|------------|-------------|
| VGA | 640*350 | 70 | 31.5 |
| VGA | 640*350 | 85 | 37.9 |
| VGA | 640*400 | 85 | 37.9 |
| VGA | 640*480 | 60 | 31.5 |
| VGA | 640*480 | 72 | 37.9 |
| VGA | 640*480 | 75 | 37.5 |
| VGA | 640*480 | 85 | 43.3 |
| VGA | 720*400 | 70 | 31.5 |
| VGA | 720*400 | 85 | 37.9 |
| SVGA | 800*600 | 56 | 35.2 |
| SVGA | 800*600 | 60 | 37.9 |
| SVGA | 800*600 | 72 | 48.1 |
| SVGA | 800*600 | 75 | 46.9 |
| SVGA | 800*600 | 85 | 53.7 |
| XGA | 1024*768 | 43.4 | 35.5 |
| XGA | 1024*768 | 60 | 48.4 |
| XGA | 1024*768 | 70 | 56.5 |
| XGA | 1024*768 | 75 | 60.0 |
| XGA | 1024*768 | 85 | 68.7 |
| SXGA | 1152*864 | 70 | 63.8 |
| SXGA | 1152*864 | 75 | 67.5 |
| SXGA | 1152*864 | 85 | 77.1 |
| SXGA | 1280*960 | 60 | 60 |
| SXGA | 1280*960 | 75 | 75 |
| SXGA | 1280*1024 | 43 | 46.4 |
| SXGA | 1280*1024 | 60 | 63.98 |
| SXGA | 1280*1024 | 75 | 79.98 |
| MAC 16" | 832*624 | 74.55 | 49.725 |
| MAC 19" | 1024*768 | 75 | 60.24 |
| MAC | 1152*870 | 75.06 | 68.68 |
| MAC G4 | 640*480 | 60 | 31.35 |
| MAC G4 | 640/480 | 120 | 68.03 |
| MAC G4 | 1024*768 | 120 | 97.09 |
| i Mac DV | 640*480 | 117 | 60 |
| i Mac DV | 800*600 | 95 | 60 |
| i MAC DV | 1024*768 | 75 | 60 |
| i MAC DV | 1152*870 | 75 | 68.49 |
| i MAC DV | 1280*960 | 75 | 75 |

4-4.2 Compatible Modes

MT200/MT400 Computer Compatibility (Analog / DVI with HDCP)

| Compatibility | Resolution | V-Sync(Hz) | H-Sync(KHz) |
|---------------|------------|------------|-------------|
| VGA | 640*350 | 70 | 31.5 |
| VGA | 640*350 | 85 | 37.9 |
| VGA | 640*400 | 85 | 37.9 |
| VGA | 640*480 | 60 | 31.5 |
| VGA | 640*480 | 72 | 37.9 |
| VGA | 640*480 | 75 | 37.5 |
| VGA | 640*480 | 85 | 43.3 |
| VGA | 720*400 | 70 | 31.5 |
| VGA | 720*400 | 85 | 37.9 |
| SVGA | 800*600 | 56 | 35.2 |
| SVGA | 800*600 | 60 | 37.9 |
| SVGA | 800*600 | 72 | 48.1 |
| SVGA | 800*600 | 75 | 46.9 |
| SVGA | 800*600 | 85 | 53.7 |
| XGA | 1024*768 | 60 | 48.4 |
| XGA | 1024*768 | 70 | 56.5 |
| XGA | 1024*768 | 75 | 60.0 |
| XGA | 1024*768 | 85 | 68.7 |
| SXGA | 1152*864 | 70 | 63.8 |
| SXGA | 1152*864 | 75 | 67.5 |
| SXGA | 1152*864 | 85 | 77.1 |
| SXGA | 1280*960 | 60 | 60 |
| SXGA | 1280*960 | 75 | 75 |
| SXGA | 1280*1024 | 60 | 63.98 |
| WVGA | 854*480 | 60 | 32.2 |
| MAC 16" | 832*624 | 74.55 | 49.725 |
| MAC 19" | 1024*768 | 75 | 60.24 |
| MAC | 1152*870 | 75.06 | 68.68 |
| MAC G4 | 640*480 | 60 | 31.35 |
| i MAC DV | 1024*768 | 75 | 60 |
| i MAC DV | 1152*870 | 75 | 68.49 |
| i MAC DV | 1280*960 | 75 | 75 |

4-4.3 Compatible Modes

S80/T90A Series Computer Compatibility (Analog / DVI with HDCP)

| Compatibility | Resolution | V-Sync(Hz) | H-Sync(KHz) |
|---------------|------------|------------|-------------|
| VGA | 640*350 | 70 | 31.5 |
| VGA | 640*350 | 85 | 37.9 |
| VGA | 640*400 | 85 | 37.9 |
| VGA | 640*480 | 60 | 31.5 |
| VGA | 640*480 | 72 | 37.9 |
| VGA | 640*480 | 75 | 37.5 |
| VGA | 640*480 | 85 | 43.3 |
| VGA | 720*400 | 70 | 31.5 |
| VGA | 720*400 | 85 | 37.9 |
| SVGA | 800*600 | 56 | 35.2 |
| SVGA | 800*600 | 60 | 37.9 |
| SVGA | 800*600 | 72 | 48.1 |
| SVGA | 800*600 | 75 | 46.9 |
| SVGA | 800*600 | 85 | 53.7 |
| SVGA | 1024*768 | 60 | 48.4 |
| SVGA | 1024*768 | 70 | 56.5 |
| SVGA | 1024*768 | 75 | 60.0 |
| SVGA | 1024*768 | 85 | 68.7 |
| SVGA | 1152*864 | 70 | 63.8 |
| SVGA | 1152*864 | 75 | 67.5 |
| SVGA | 1152*864 | 85 | 77.1 |
| SVGA | 1280*960 | 60 | 60 |
| SVGA | 1280*960 | 75 | 75 |
| SVGA | 1280*1024 | 43 | 46.4 |
| SVGA | 1280*1024 | 60 | 63.98 |
| SVGA | 1280*1024 | 75 | 79.98 |
| MAC 16" | 832x624 | 74.55 | 49.725 |
| MAC 19" | 1024x768 | 75 | 60.24 |
| MAC | 1152x870 | 75.6 | 68.68 |
| MAC G4 | 640x480 | 60 | 31.35 |
| i Mac DV | 1024x768 | 75 | 60 |
| i Mac DV | 1152x870 | 75 | 68.49 |
| i Mac DV | 1280x960 | 75 | 75 |

4-4.4 Function Test Display Pattern

PC Signal :

| Item | Test Content | Pattern | Specification | Remark |
|------|-------------------------------------|-------------------------------|--|--------------|
| 1 | Frequency & Tracking | Fine Line Moire | Eliminate visual wavy noise by Re-sync, Frequency or Tracking selection. | Figure 1 |
| 2 | Contrast/Brightness | 32 Gray Scale / 64 RGBW scale | Gray level should be distinguishable and without color abnormal. | Figure 2, 3 |
| 3 | R, G, B and White Color Performance | R, G, B and White Color | Each R, G, B color should be normal without color abnormal issue. | Figure 4~7 |
| 4 | Screen Uniformity | Full White | Should be compliant with 65%. (Minimum) | Figure 7 |
| 5 | Dead Pixel (Bright pixel) | Full Black | Cannot accept any bright pixel. | Figure 8 |
| | Dead Pixel (Dark pixel) | Full White | The numbers of dead pixel should be smaller or amount to 8 pixels. | Figure 7 |
| 6 | Blemish (Bright) | Full Black / Gary 30 | The bright blemish cannot be accepted if the problem appears with Gary 30 pattern. | Figure 8, 9 |
| 7 | Blemish (Dark) | Full white / Blue 60 | The dark blemish cannot be accepted if the problem appears with Blue 60 pattern. | Figure 7, 10 |
| 8 | Focus | Text Pattern | The text in the corner should be clear after adjusting the focus ring. | Figure 11 |
| 9 | Boundary | Boundary Frame | Horizontal and Vertical position of video should be adjustable to be the screen frame. | Figure 12 |

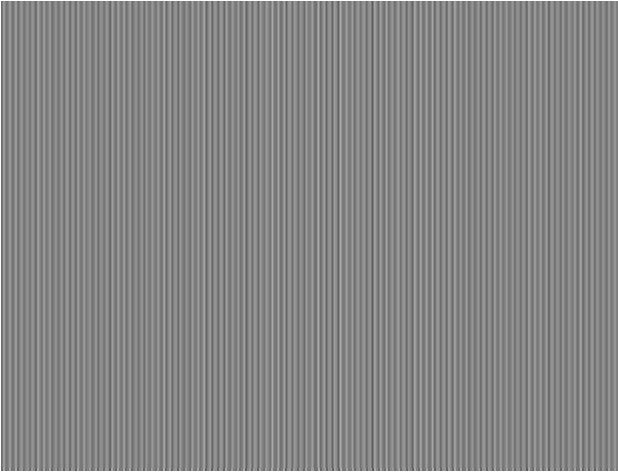


Figure 1. Fine Line Moire



Figure 2. 32 Gray Scale

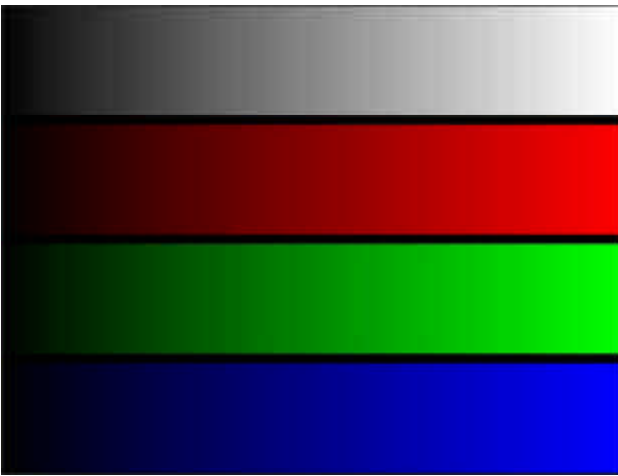


Figure 3. 64 RGBW Scale



Figure 4. Red Pattern



Figure 5. Green Pattern



Figure 6. Blue Pattern

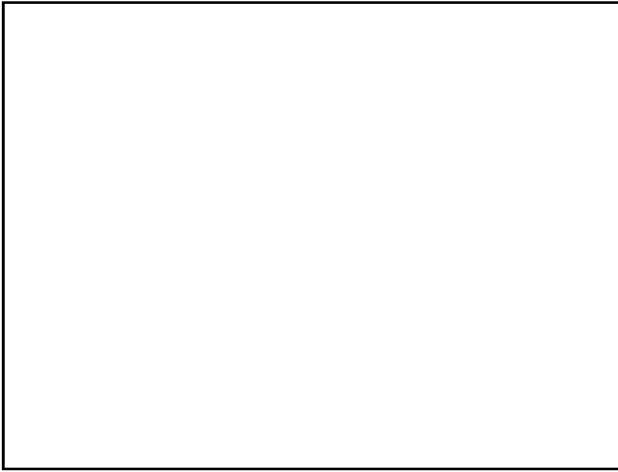


Figure 7. Full White



Figure 8. Full Black



Figure 9. Gary 30 Pattern



Figure 10. Blue 60 Pattern

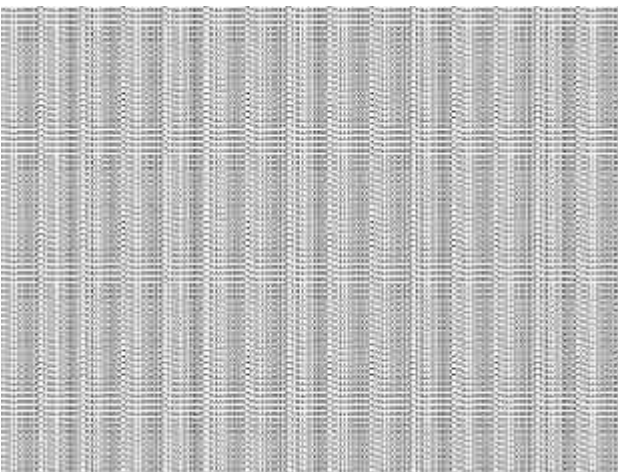


Figure 11. Text Pattern

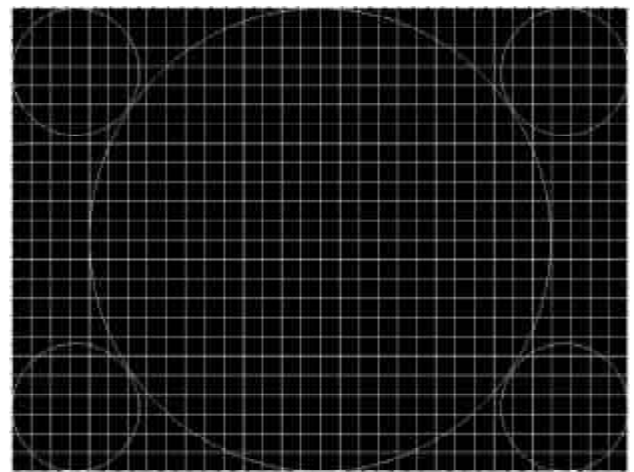


Figure 12. Boundary Frame

Video & Audio Signal :

| Item | Test Content | Specification | Remark |
|------|-----------------|--|--------|
| 1 | Composite Video | The input signal has to display without color abnormal. The Video selection of OSD | |
| 2 | S-Video | The input signal has to display without color abnormal. | |
| 3 | Component Video | The input signal has to display without color abnormal. | |
| 4 | HDTV | The input signal has to display without color abnormal. | |

4-5 Inspection Procedure

Elevator Function :

- Please check and ensure the function of elevator works well.
- If not, please return the unit to repair area.

Keypad Function (Including Remote Control) :

- Please check and ensure the control function of keypad works well.
- If not, please return the unit to repair area.

Reset :

Please press "Menu" button on the projector panel to enter "Reset all" function. This action will allow you to erase all end user's settings and restore the original factory settings. Then choose "YES" and press "Enter" to see if it works.

Frequency and Tracking :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Fine Line Moire Pattern

- Check and see if image sharpness and focus are well performed.
 - If not, readjust by following steps.
1. Select "Frequency" function to adjust the total pixel number of pixel clock in one line period.
(Refer to Chapter 3-1 Equipment Needed, item 4)
 2. Then select "Phase" function and use right or left button to adjust the value to minimize video flicker.
(Refer to Chapter 3-1 Equipment Needed, item 5)

R, G, B and white color contrast :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : 64 RGBW scale pattern

- Please check and ensure if each color is normal and distinguishable.
- If not, please return the unit to repair area.

Screen Uniformity :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Full white pattern

- Please check and ensure the unit is within the spec. (65% Minimum)
- If not, please return the unit to repair area.

Dead pixel (Bright pixel) :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Full black pattern

- Please check and ensure the unit is within the spec. (Cannot accept any bright pixel)
- If not, please return the unit to repair area.

Dead pixel (Dark pixel) :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Full white pattern

- Please check and ensure the unit is within the spec.
The number of dark pixels cannot exceed 8 pixels.
- If not, please return the unit to repair area.

Blemish (Bright) :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Full black and Gray 30 patterns

- Please check and ensure the unit is within the spec.
(The bright blemish should not be seen under Gray 30 pattern)
- If out of spec, please return the unit to repair area.

Blemish (Dark) :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Full white and Blue 60 patterns

- Please check and ensure the unit is within the spec.
(The dark blemish should not be seen under Blue 60 pattern)
- If out of spec, please return the unit to repair area.

Focus :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Text pattern

- Please check and ensure the unit is within the spec.
(The text in the corner should be shown clearly)
- If not, please return the unit to repair area.

Boundary :

Test Signal : 1280*1024 @ 75Hz

Test Pattern : Boundary frame pattern

- Please check and ensure the unit is within the spec.
(The horizontal and vertical position of image should be adjustable to be the screen frame.)
- If not, please return the unit to repair area.

Video :

Test Signal : Composite video, S-Video and Component video

Test Pattern : NTSC, PAL, SECAM

- Please check and ensure the unit can display the video signal without color abnormal or image abnormal issue.
- If not, please return the unit to repair area.

HDTV :

Test Signal : HDTV signal

Test Pattern : 480i, 480p, 720p, 1080i

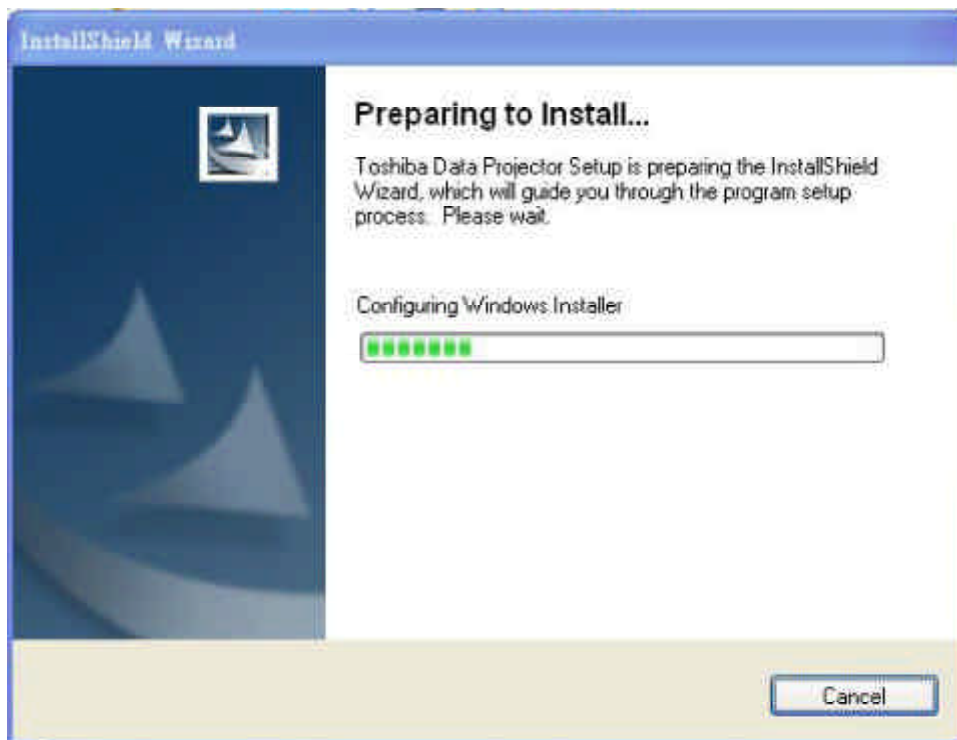
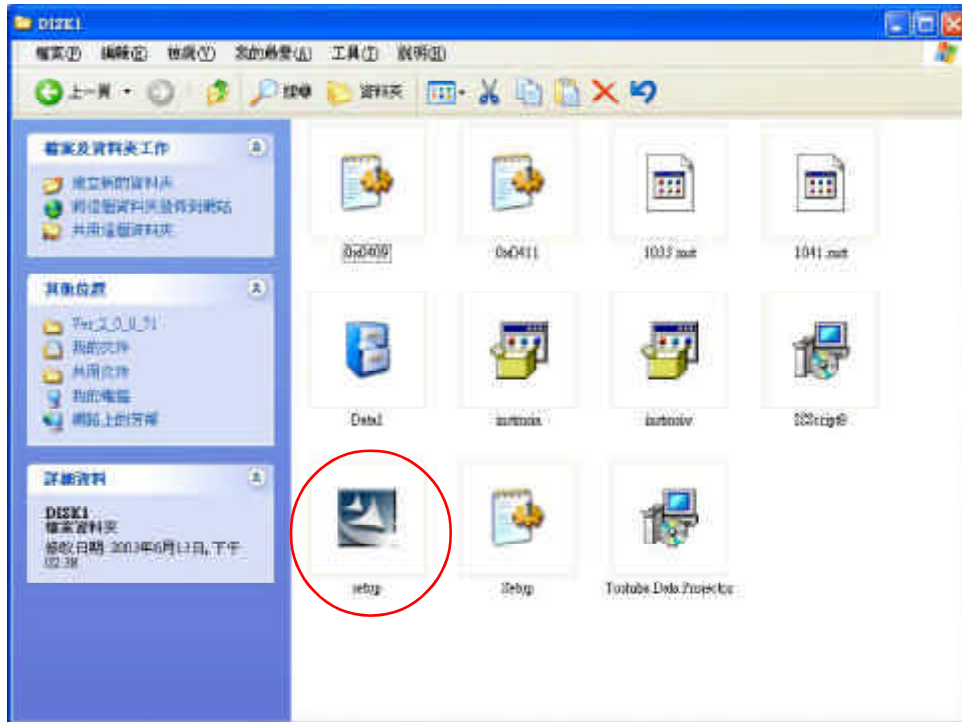
- Please check and ensure the unit can display the HDTV signal without color abnormal or image abnormal issue.
- If not, please return the unit to repair area.

4-6 Wireless Testing Procedure (For TW90, TW90A and SW80)

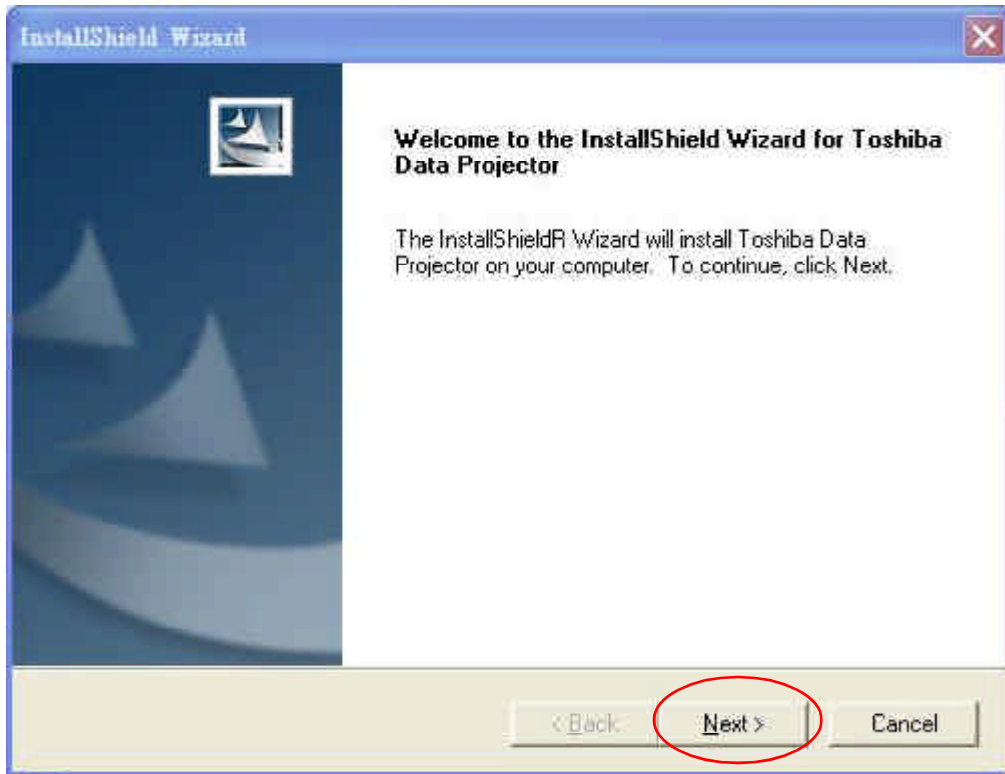
- Software : Wireless Utility

4-6.1 Wireless Setup Procedure

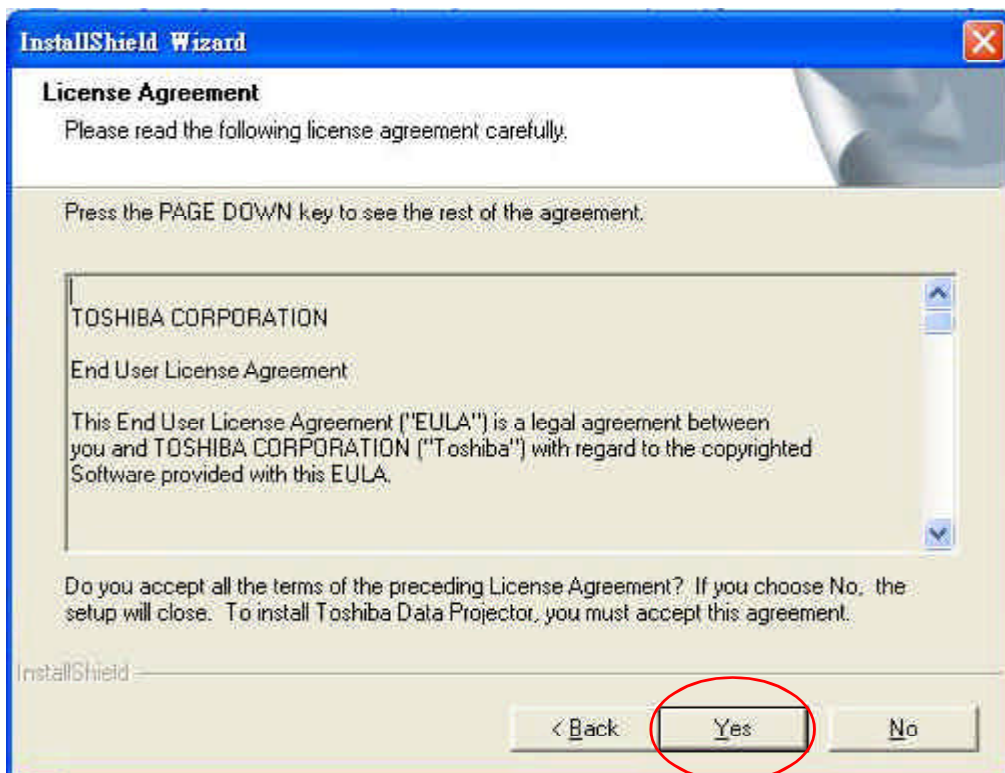
1. Press “Setup” icon to execute the program.



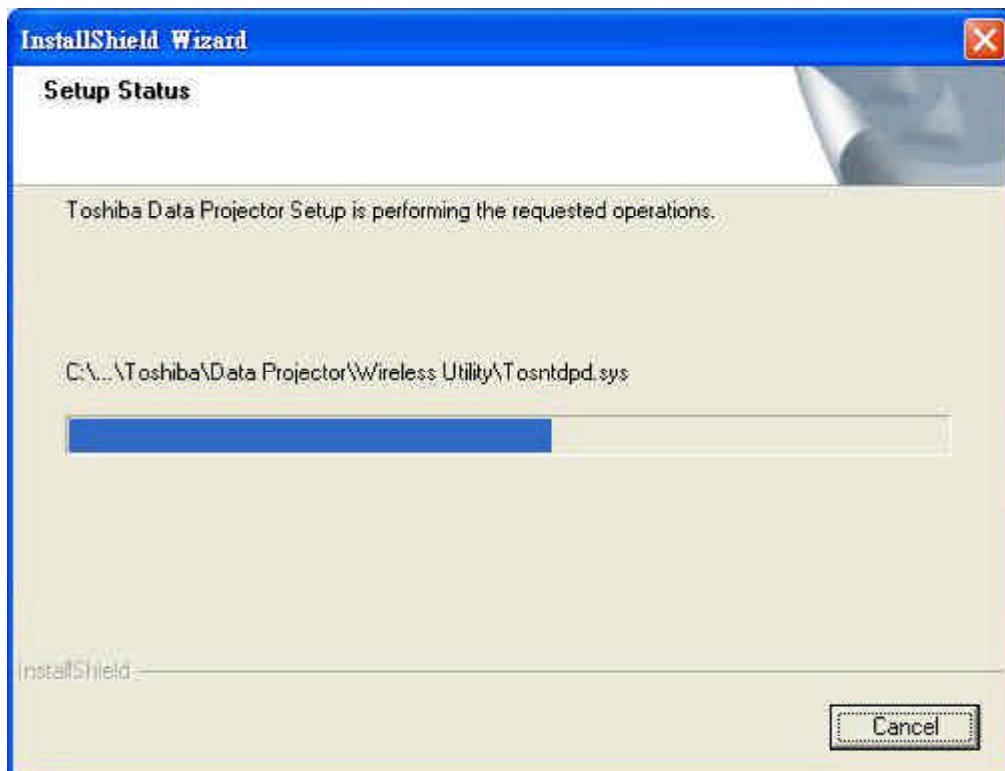
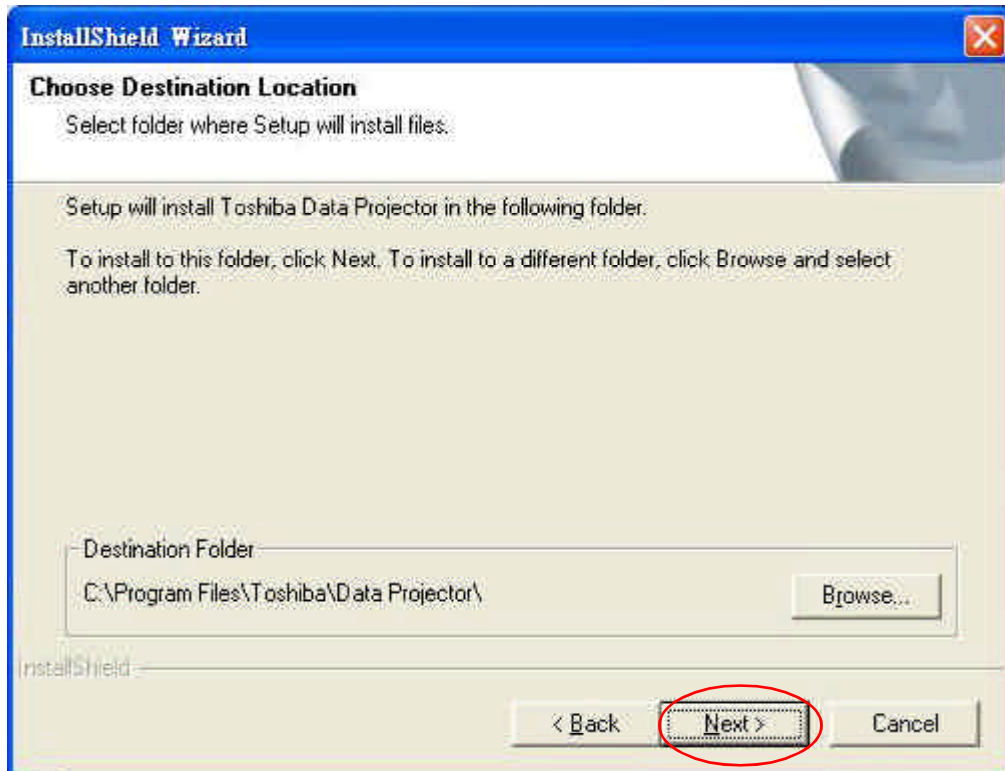
2. Press "Next" icon.



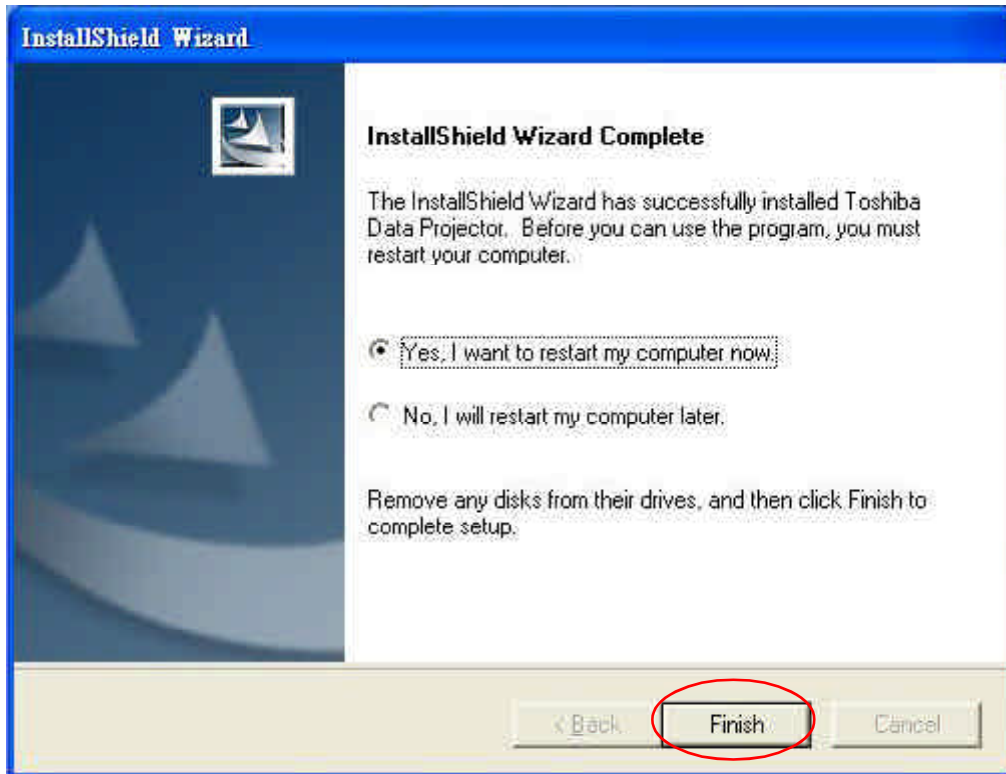
3. Press "Yes" icon.



4. Press "Next" icon.

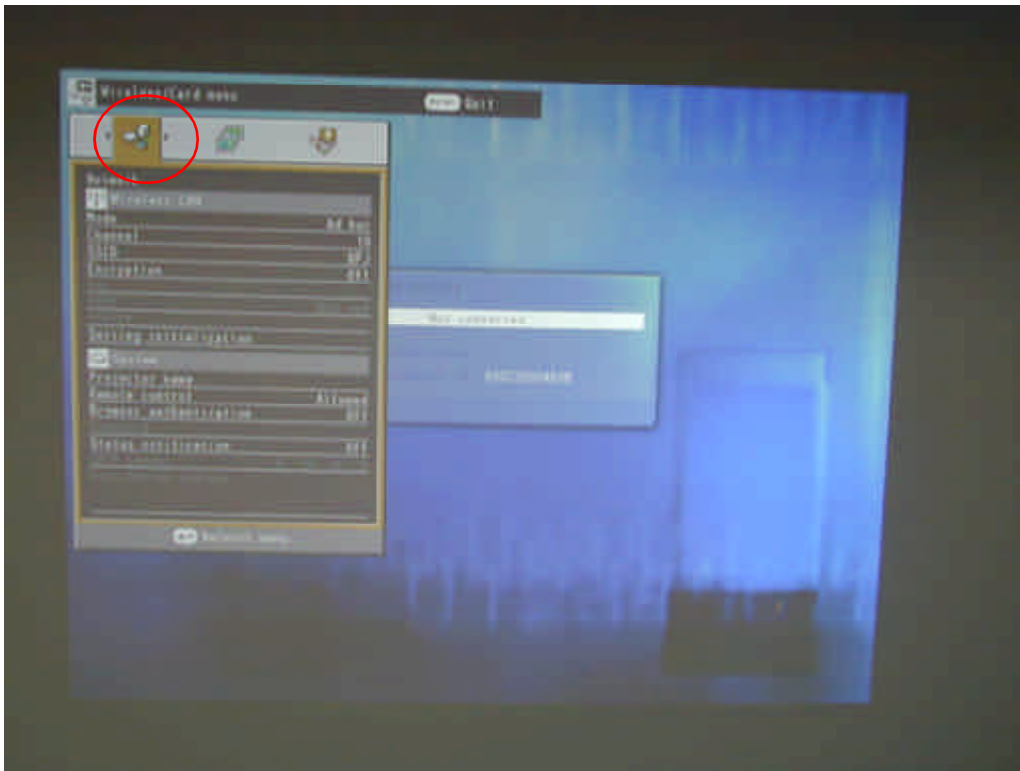


5. Choose “Yes, I want to restart my computer now”, then press “Finish” icon.

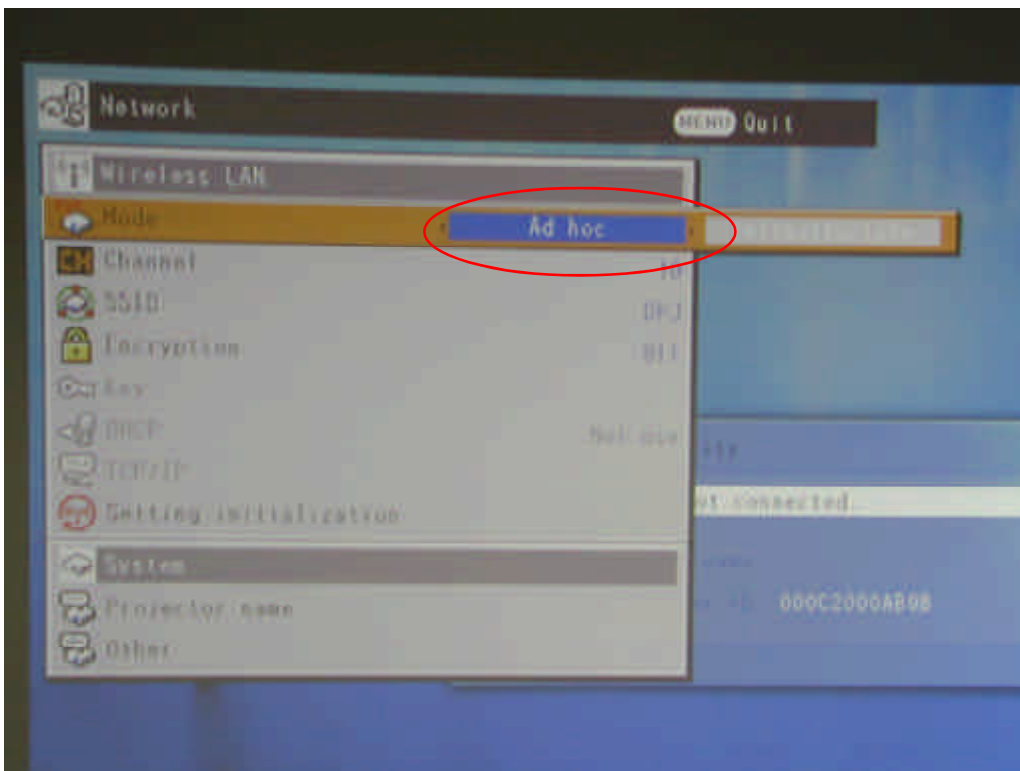


4-6.2 Projector Setup Procedure

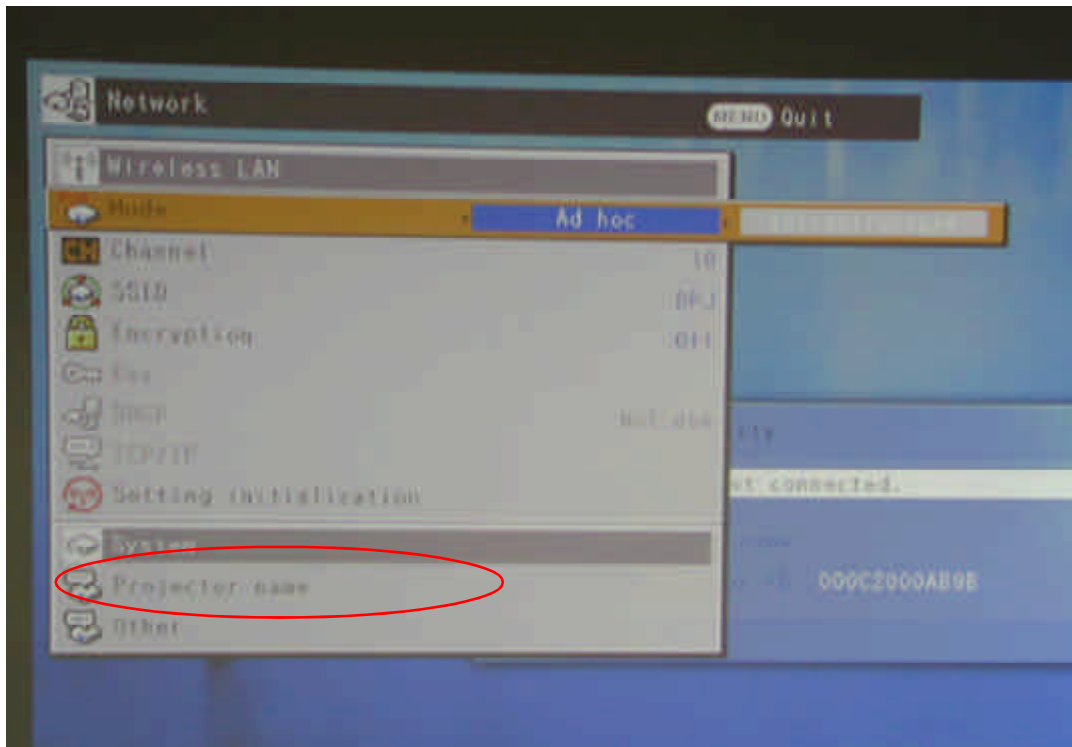
1. Press "Menu" twice, then into "Wireless setting" mode.



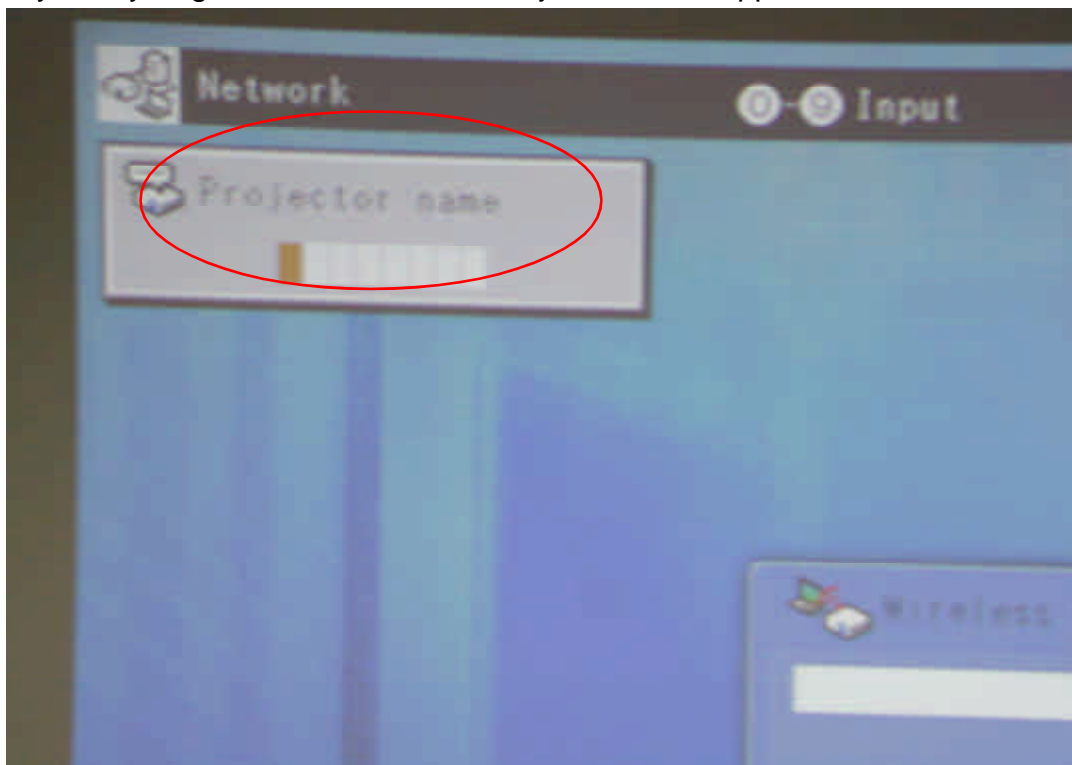
2. Choose "Ad hoc" function.



3. Choose "Projector name" function.



4. Key-in any English name when the "Projector name" appears on the screen.

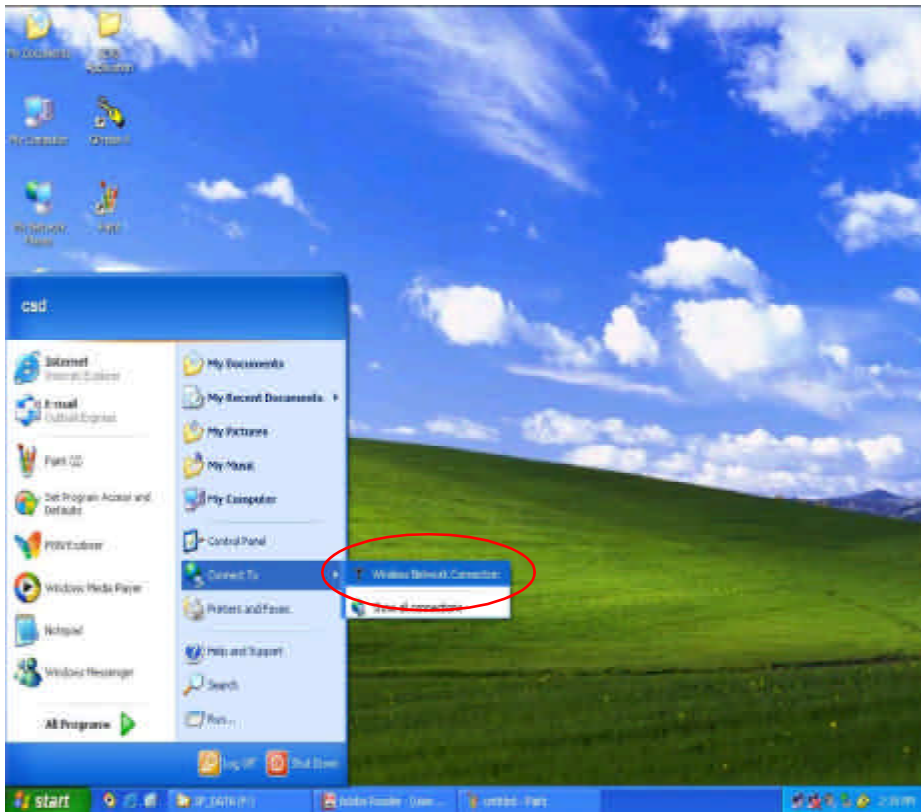


Note :

1. "Ad hoc" function is P to P(Point to Point) transmission.
2. The "Projector Name" can be keyed in by the Remote Control.

4-6.3 Network Setup Procedure

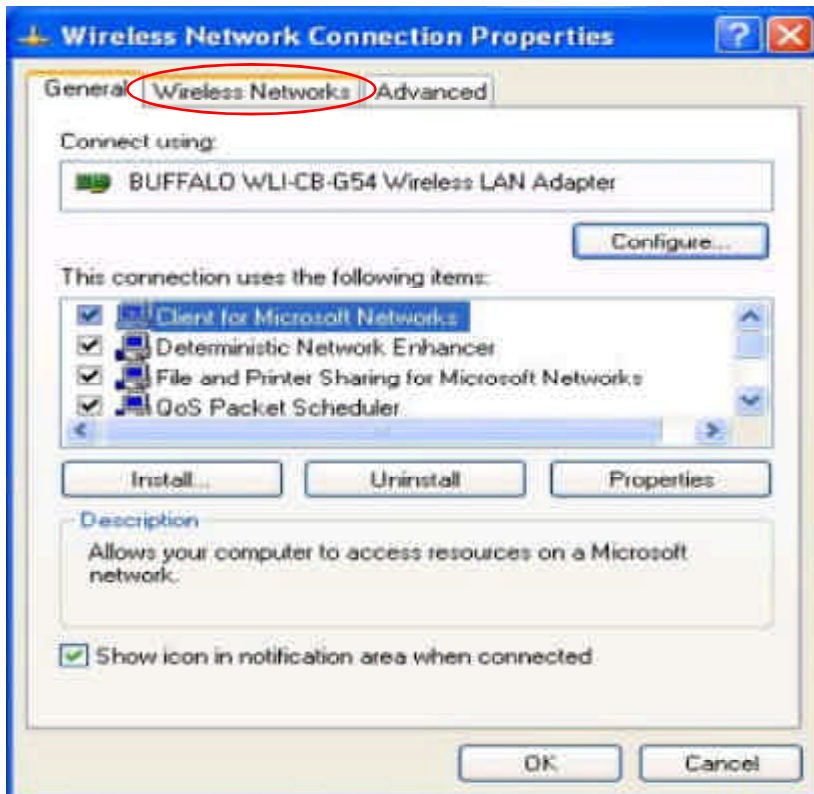
1. Press “Wireless Network Connection”.



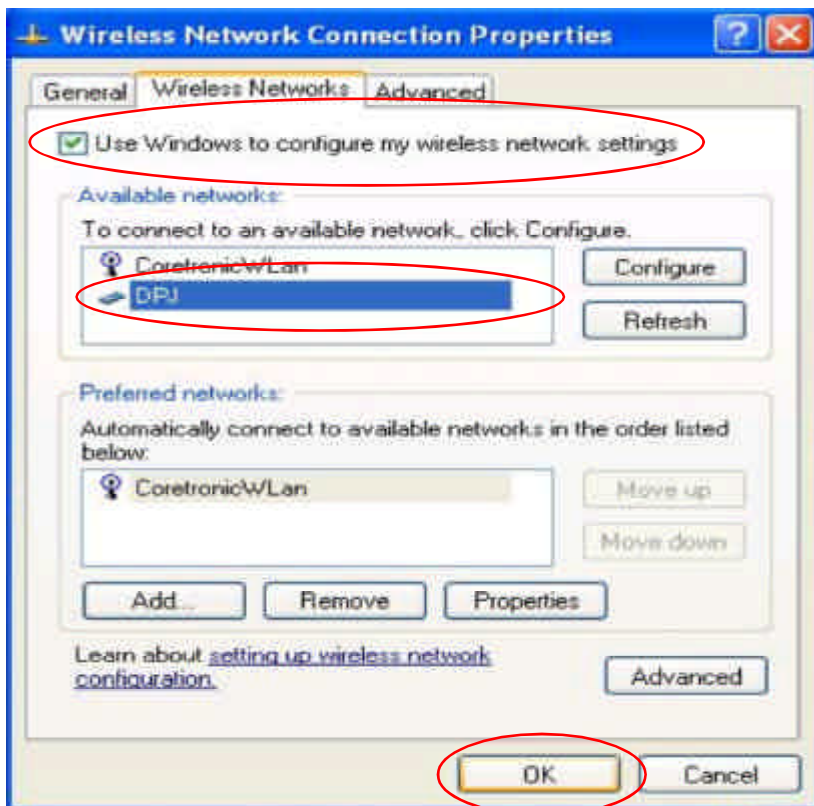
2. Click “Properties”.



3. Select “Wireless Networks”.



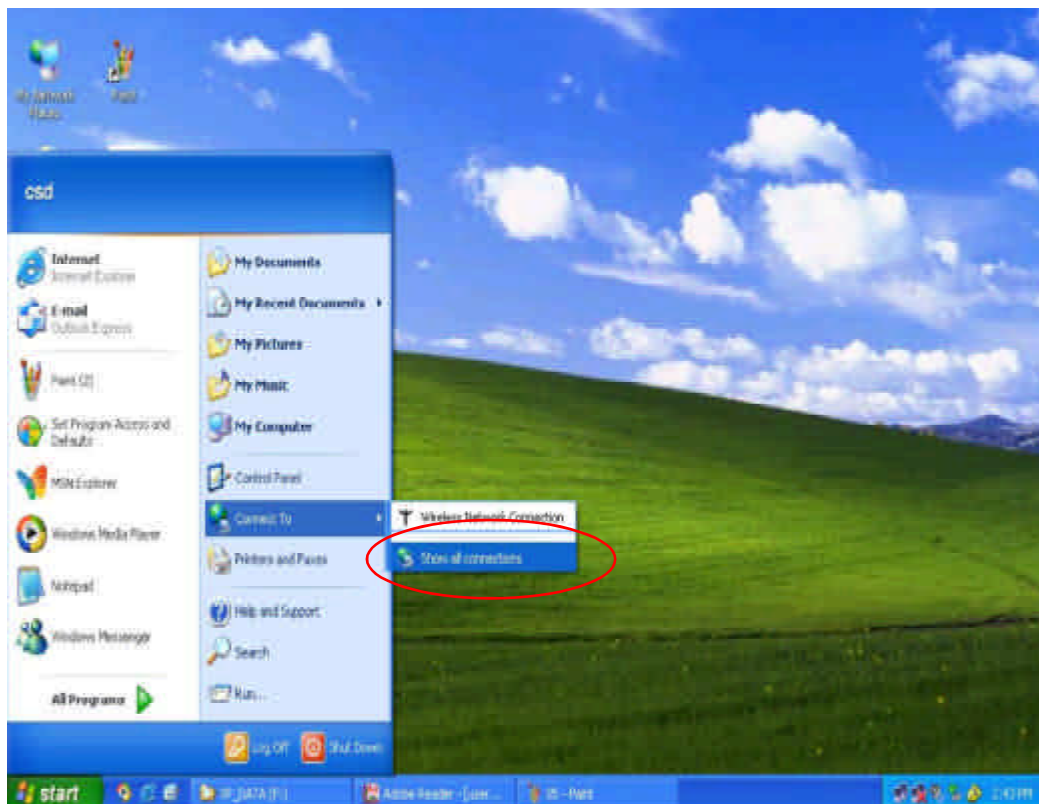
4. Click “DPJ” and then press “Ok”.



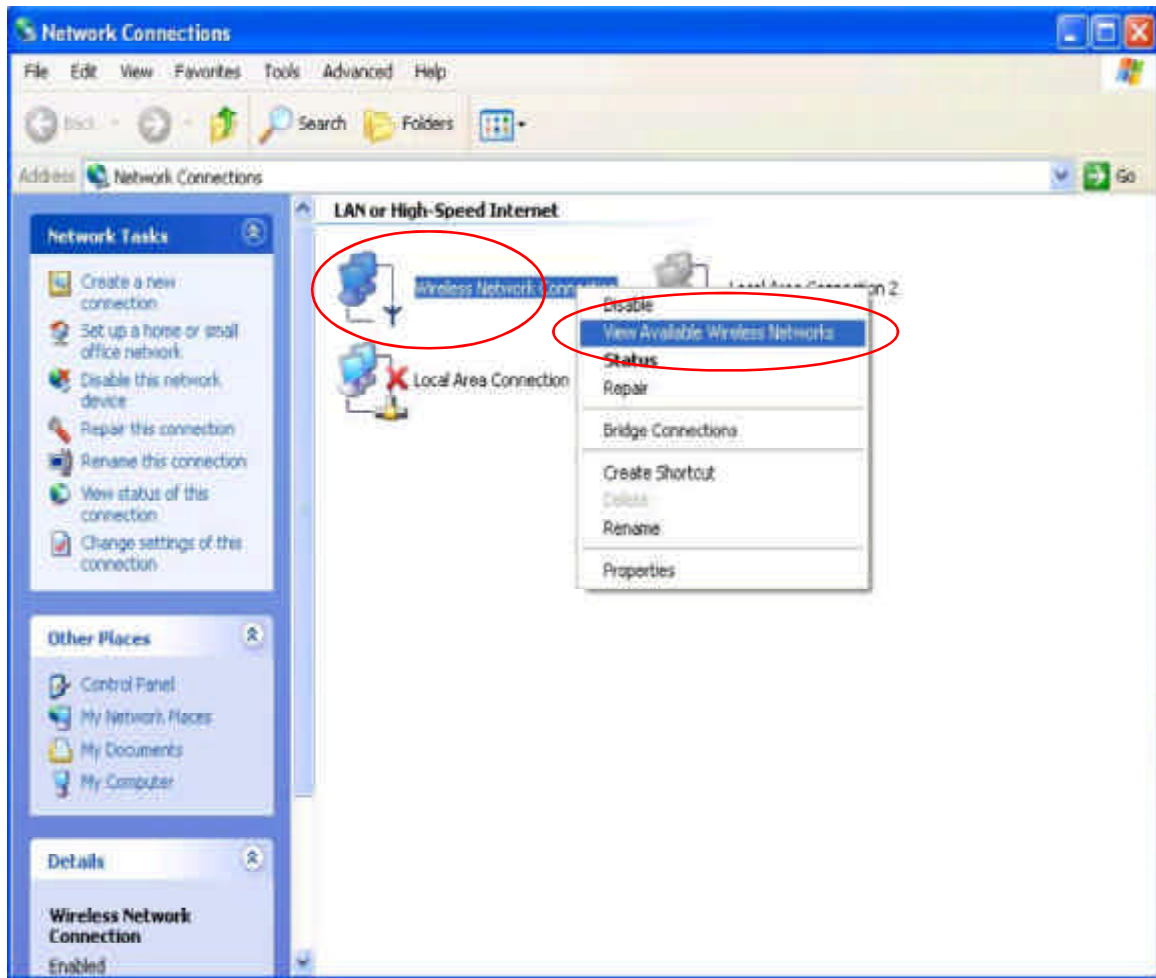
5. Click "Close".



6. Select "Show all connections".



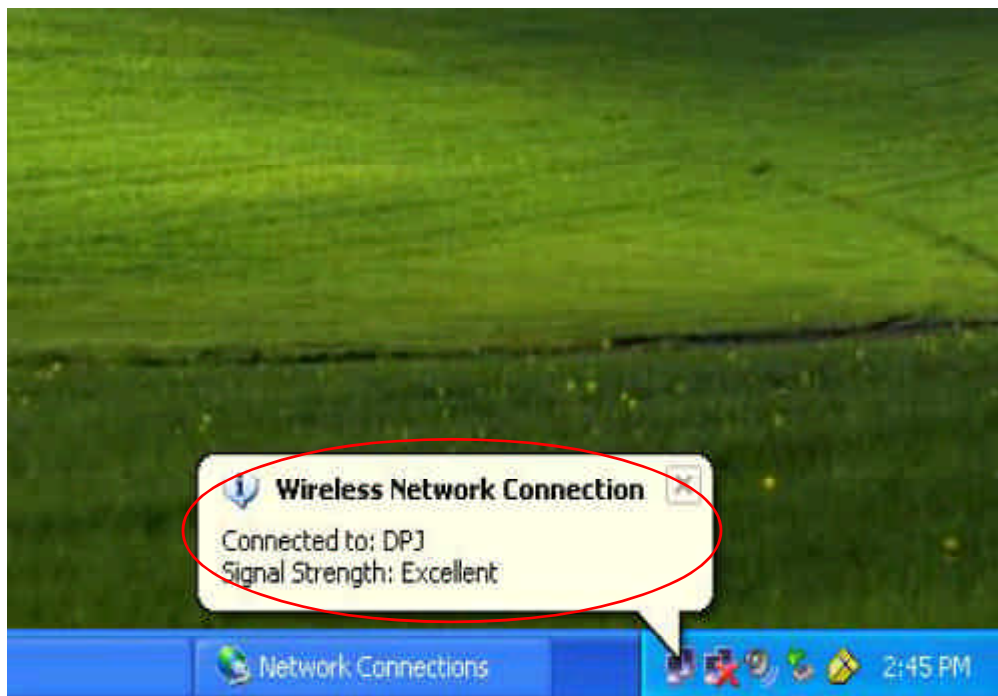
7. Right click “Wireless Network Connection” and select “View Available Wireless Networks”.



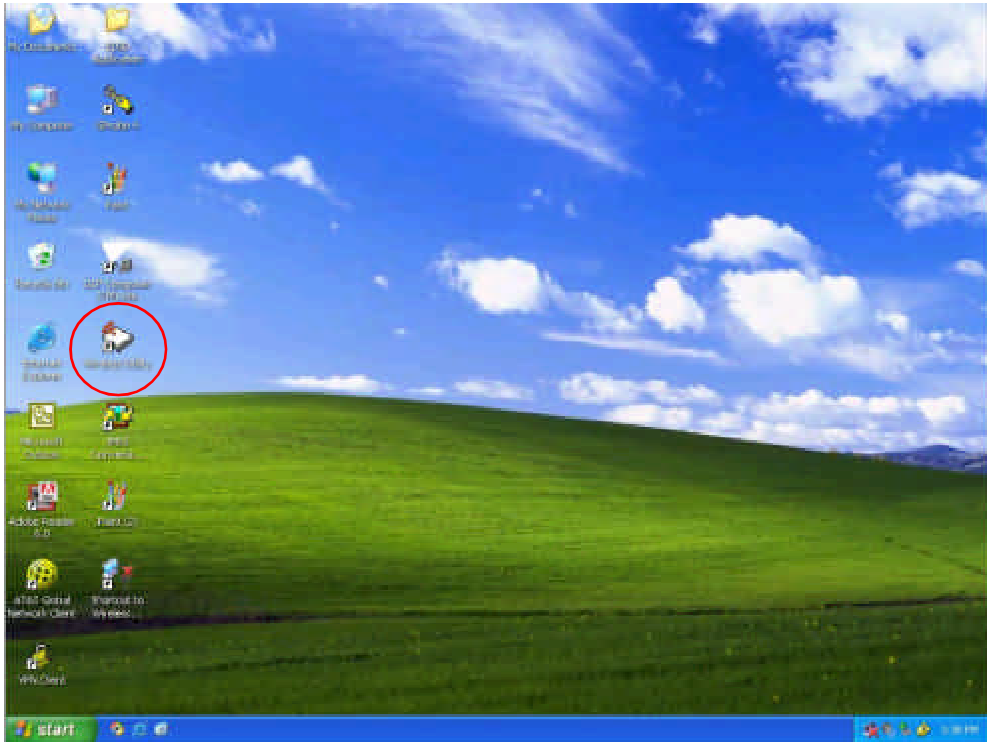
8. Choose “DPJ” and check the below box “Allow me to connect to.....”, and then press “Connect”.



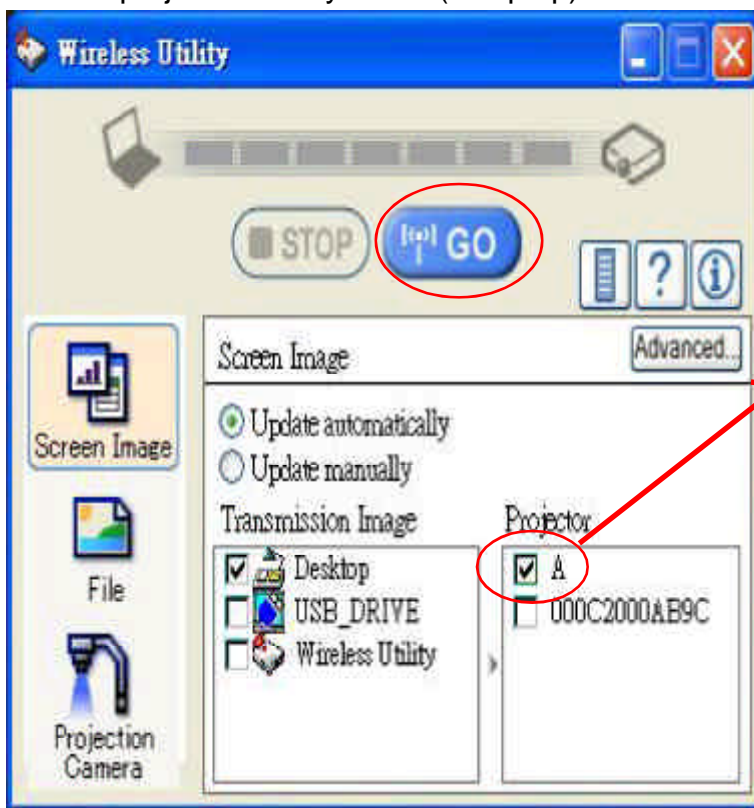
9. If the wireless connection is well established, the below message will appear on the task bar.



10. Execute “Wireless Utility” program.



11. Choose the Projector name, and then press “GO” button to link the Projector. Then you will find the projectors and your PC(or laptop) are wireless connected.



The “Projection name”
is the name you keyed
in by the remote
control previously

4-7 Camera Setup Procedure (For T91, T91A and S81)

4-7.1 Equipment Needed

- T91 Projector * 1
- Camera * 1
- VGA Cable * 1 (Special)



4-7.2 Setup Procedure

1. Connect Camera to the 2nd VGA port of T91 by VGA Cable.



2. Power on the Projector. Press "Input" button on the Keypad.
Note : Projector will find Image function from Camera automatically.

Firmware Upgrade Procedure

5-1 Equipment Needed

Hardware :

- Firmware Cable
- PC
- T80 / T90 / T91 / T98 / TW90 /
MT200 / S80 / S81/ SW80/ T90A/T91A, TW90A, MT400 Projector

Software :

- DLP composer
- DDP2000~1.img

Environment :

- Windows 98 / 2000 / XP



Firmware Cable

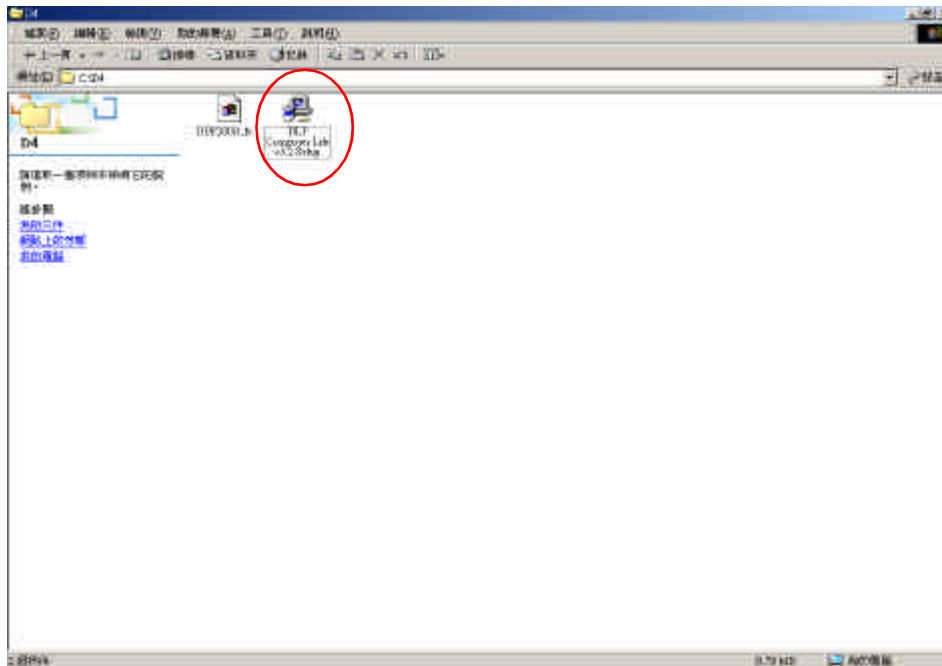
5-2 Setup Procedure

1. Connect Firmware cable to Projector and COM1 or COM2 (Serial port) of PC.
Note: If you use DLP Composer Lite V3.2, you have to connect the firmware cable to **COM2** of PC. If you use DLP Composer Lite V3.6, you can connect the firmware cable to **COM1** or **COM2**.

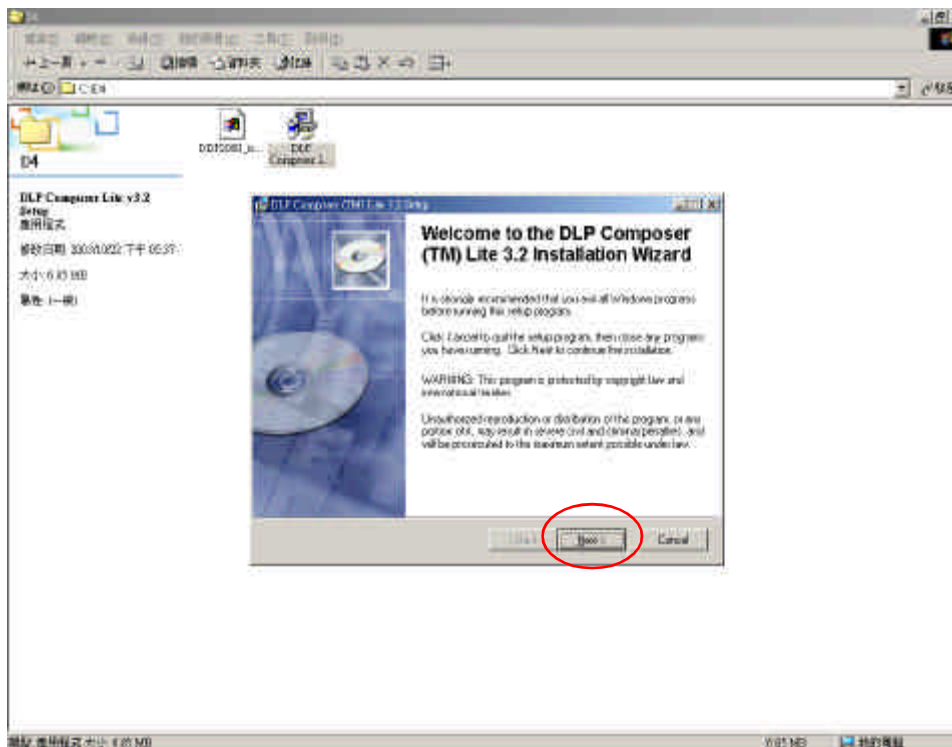


DLP composer Setup :

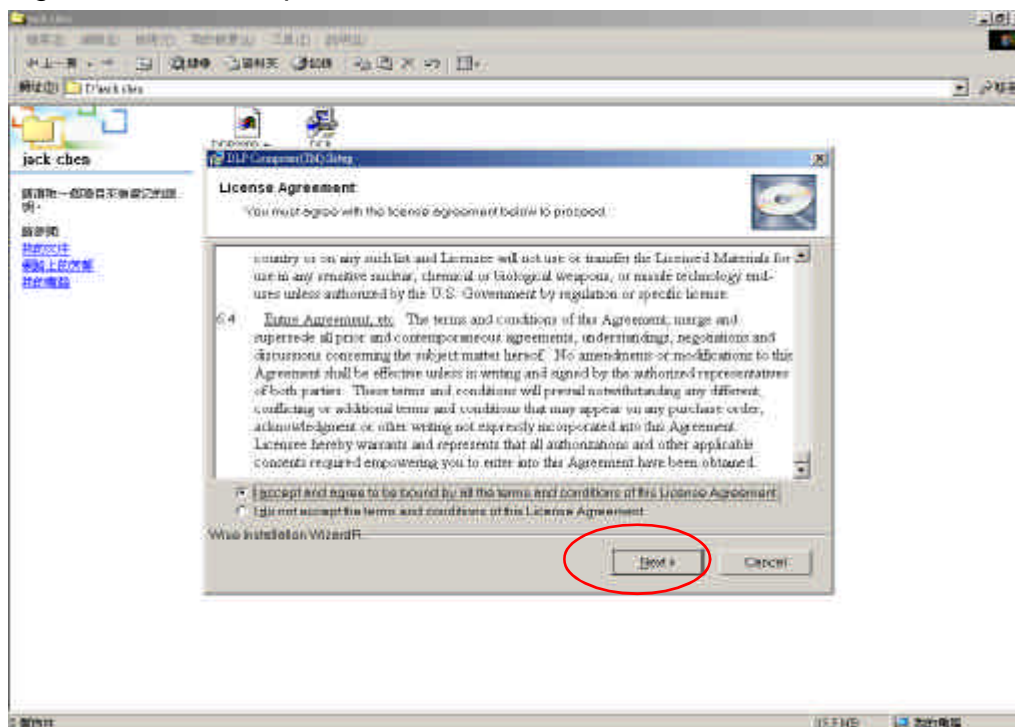
1. Execute "DLP Composer Lite Setup.exe" to start the setup procedure.



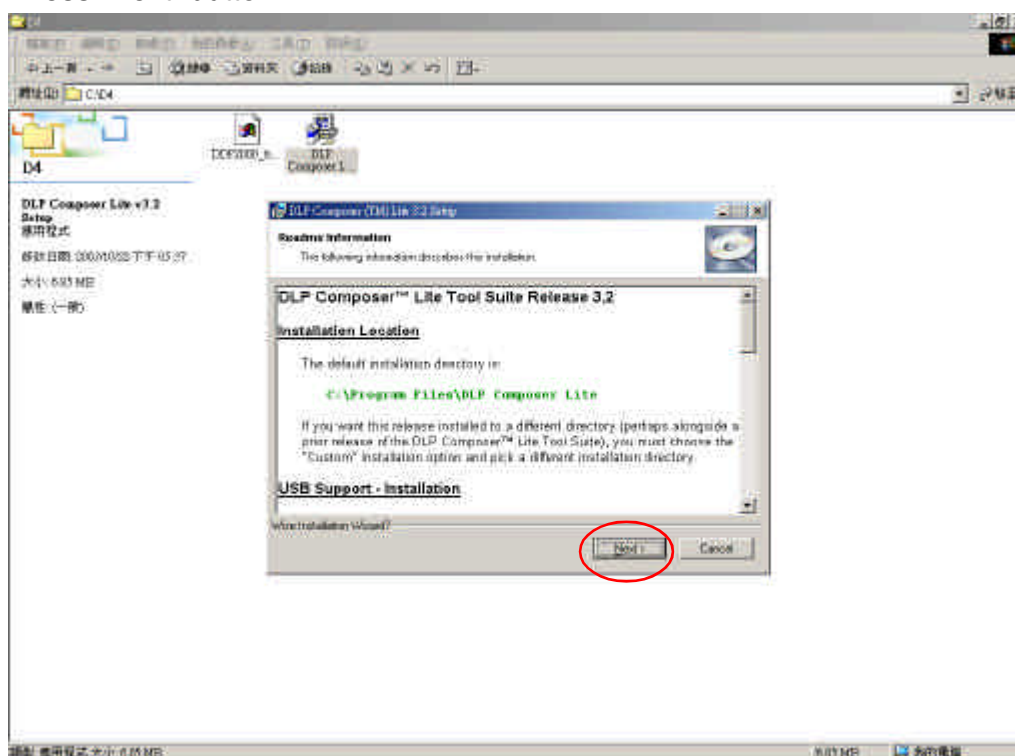
2. Press "Next" button.



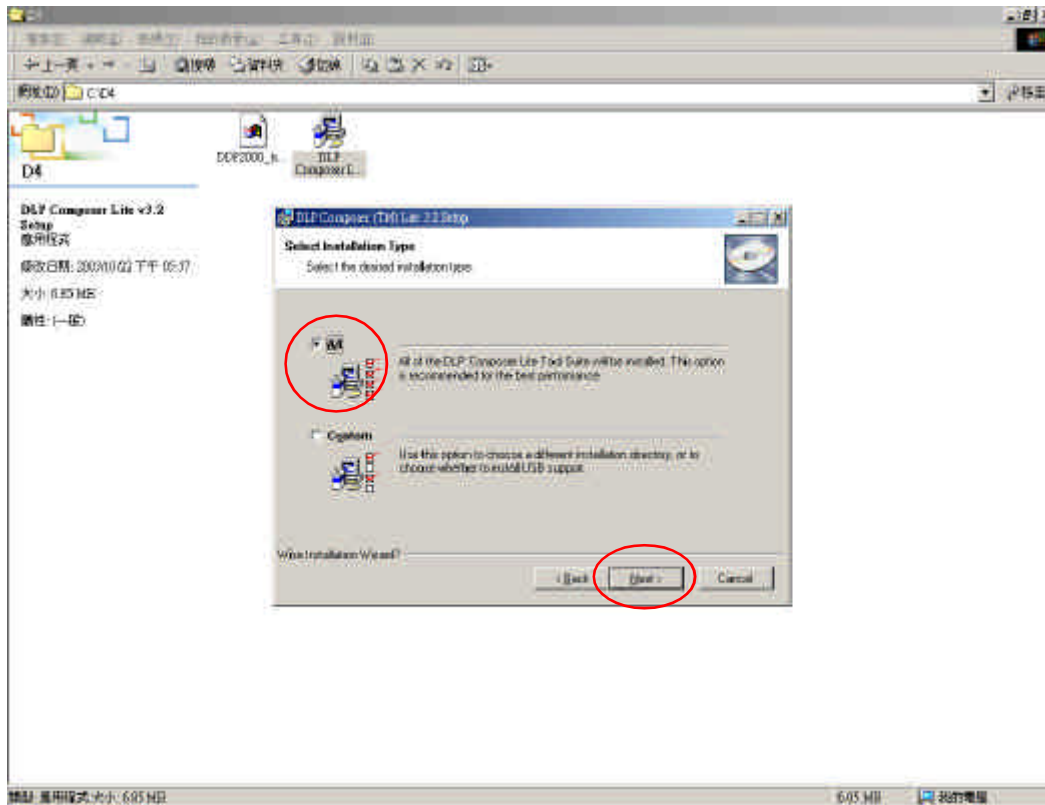
3. Choose the “I accept and agree to be bound by all the terms and conditions of this License Agreement”. Then, press “Next” button.



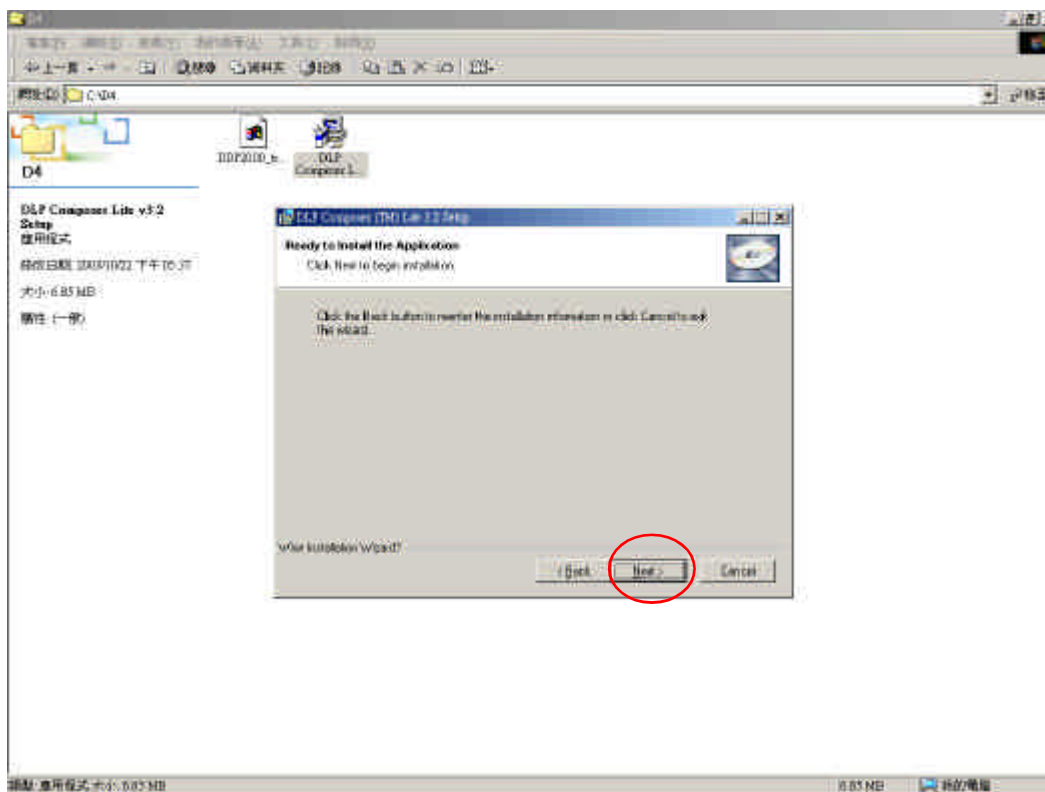
4. Press “Next” button.



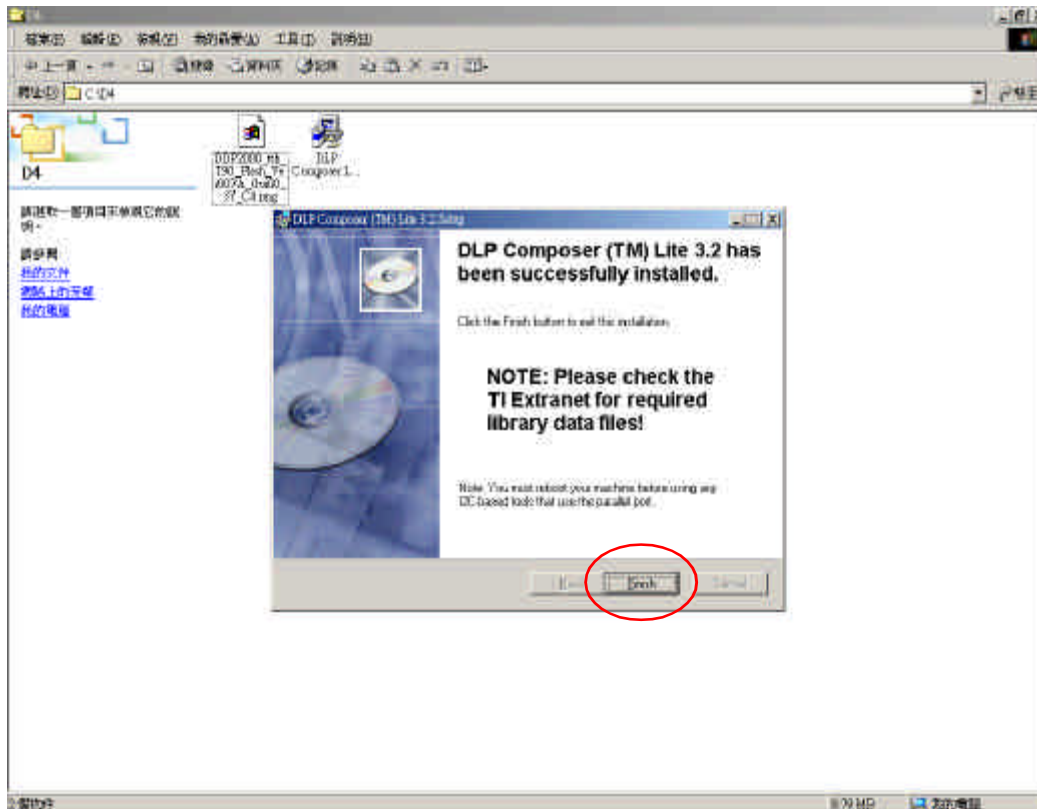
5. Choose “All” icon and then press “Next” button.



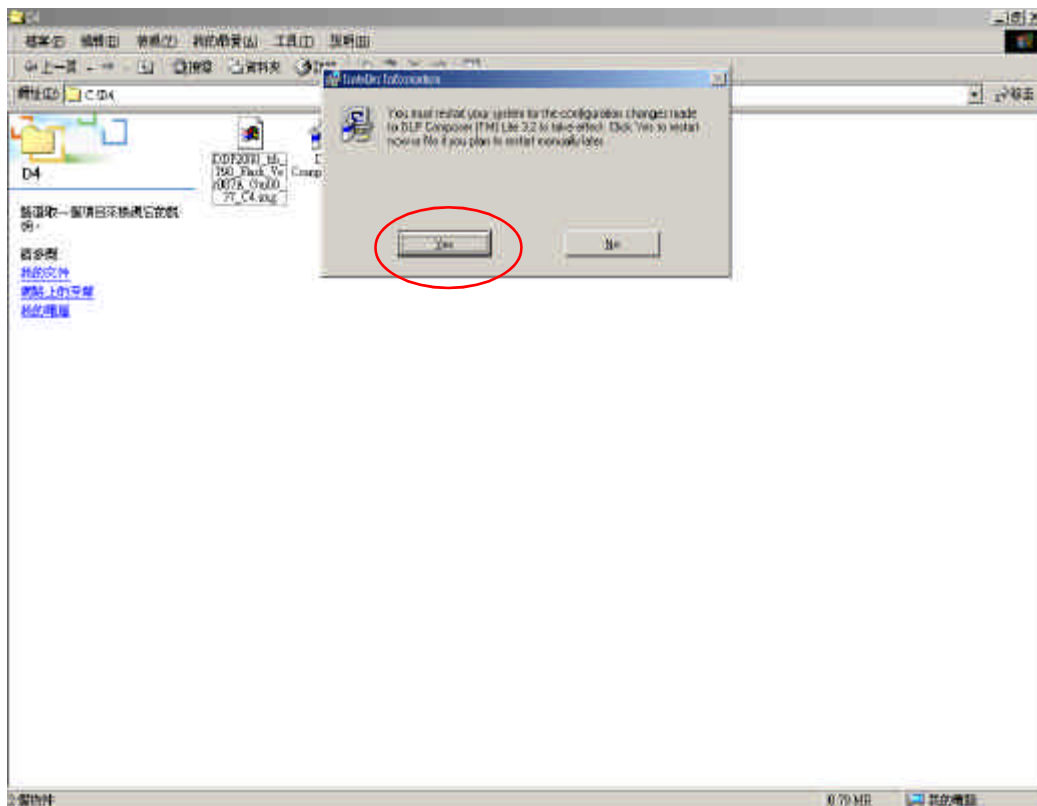
6. Press “Next” button.



7. Press “Next” button.

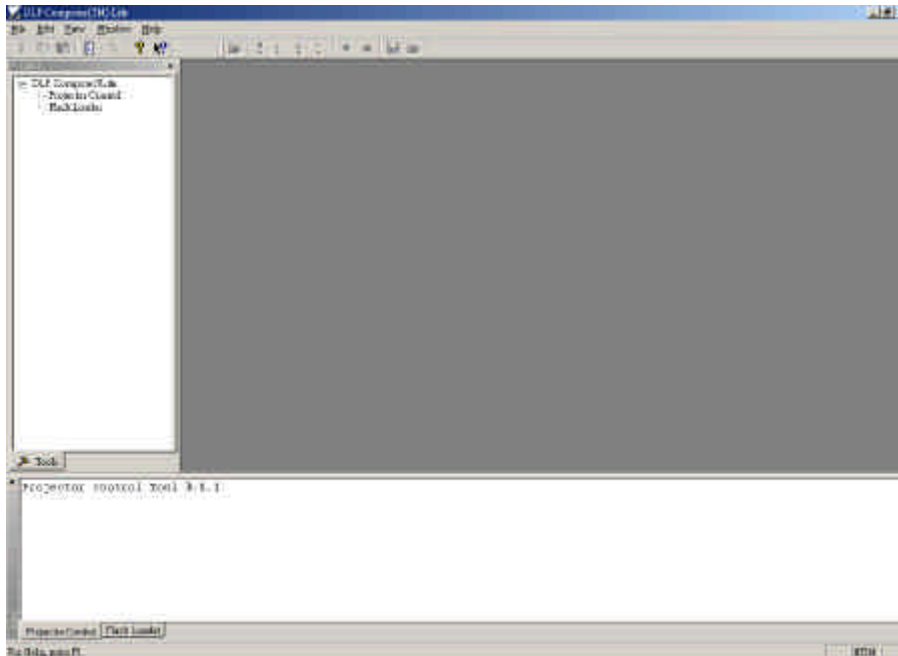


8. Press “Yes” button to reboot.

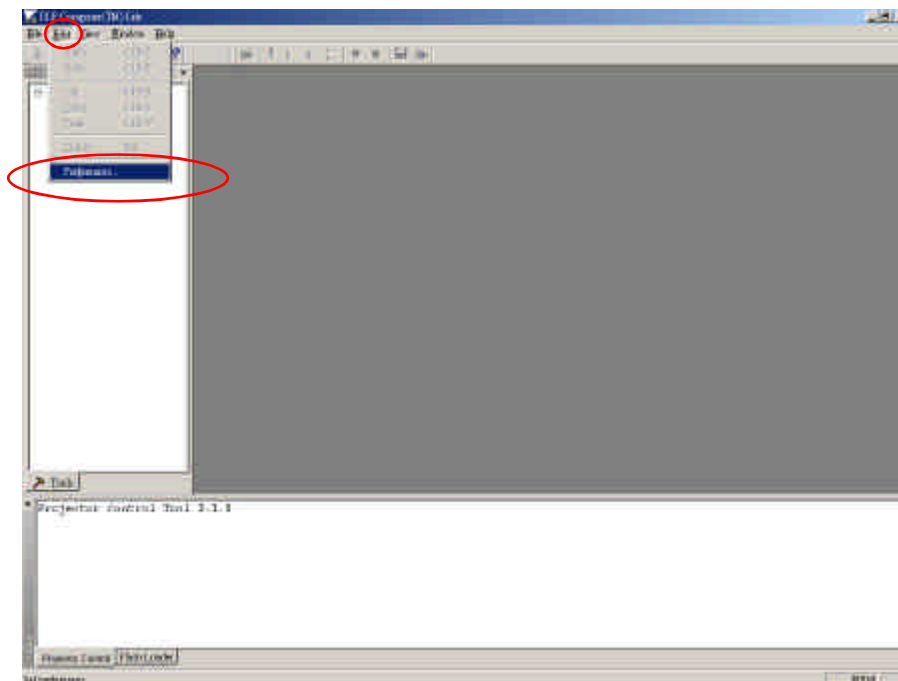


5-3 Firmware Upgrade Procedure

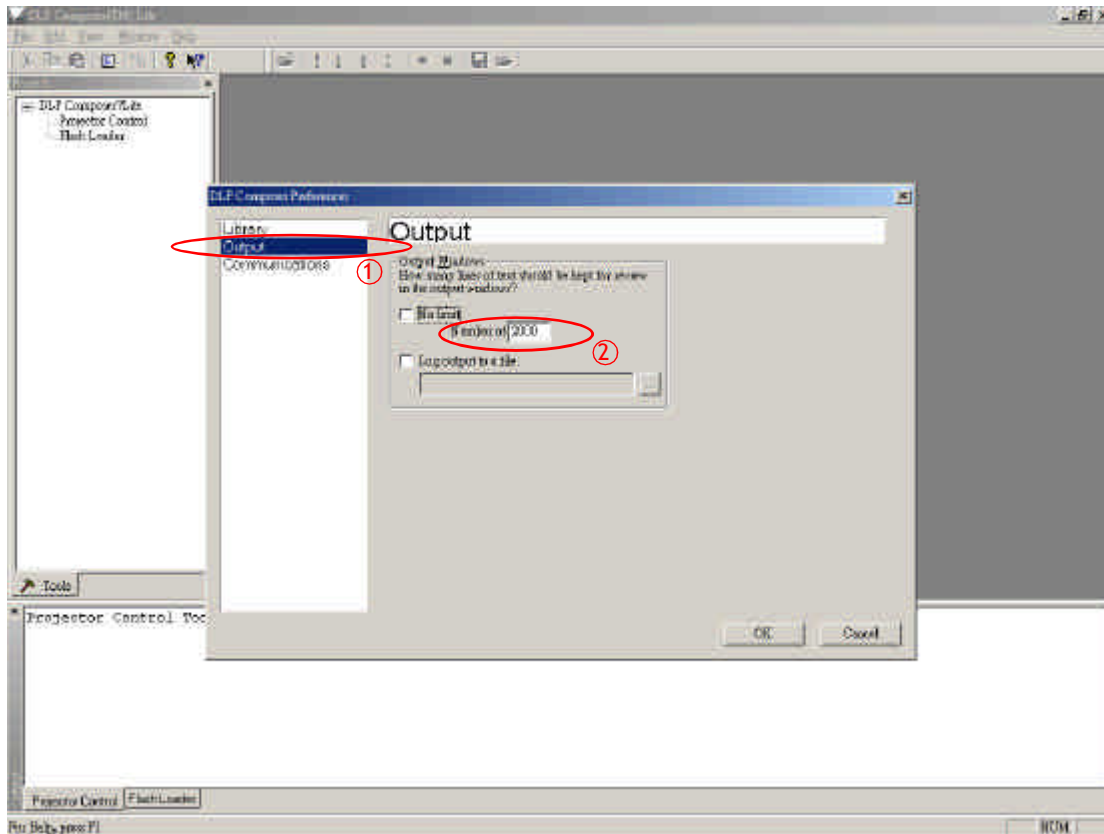
1. Press and hold “on/standby”, “Input” and “Setup” buttons simultaneously and then turn on power switch to enter the firmware upgrade mode.
Note: If the firmware upgrade mode is activated, the LEDs of LAMP, TEMP and FAN will be blinking.
2. Execute “DLP Composer” program.



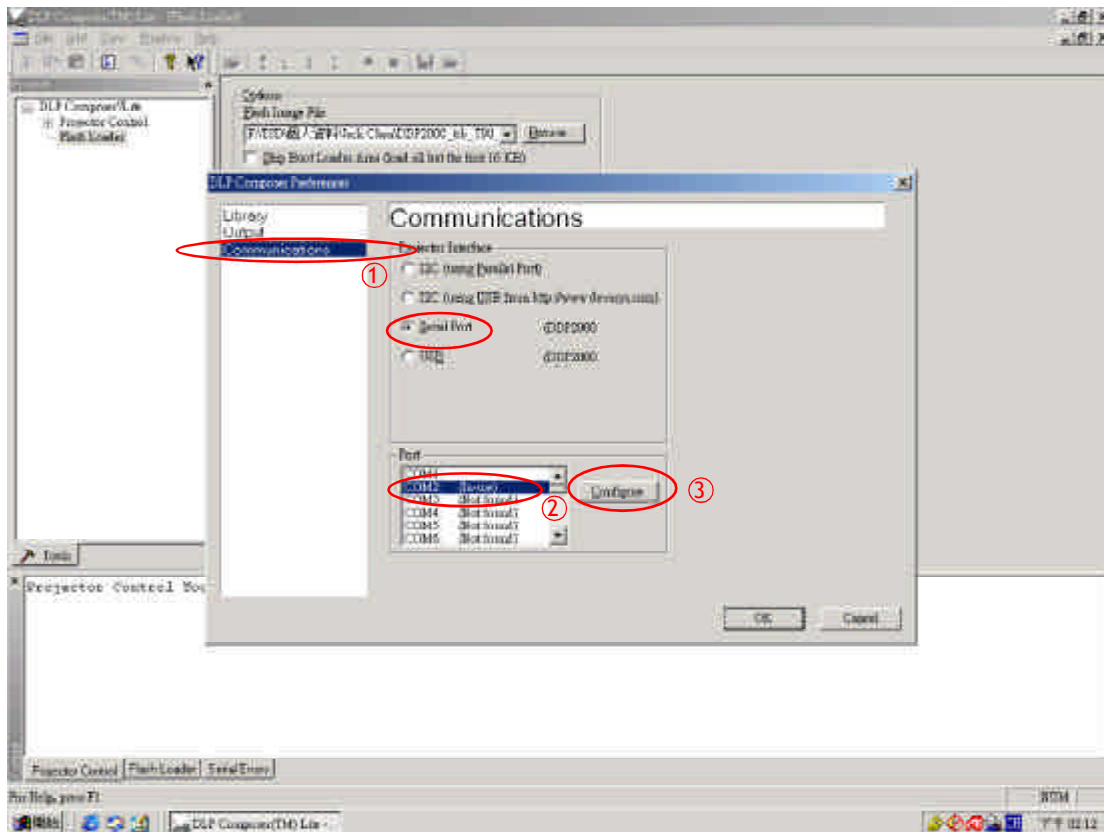
3. Choose “Edit-->Preferences” to setup Firmware upgrade status.



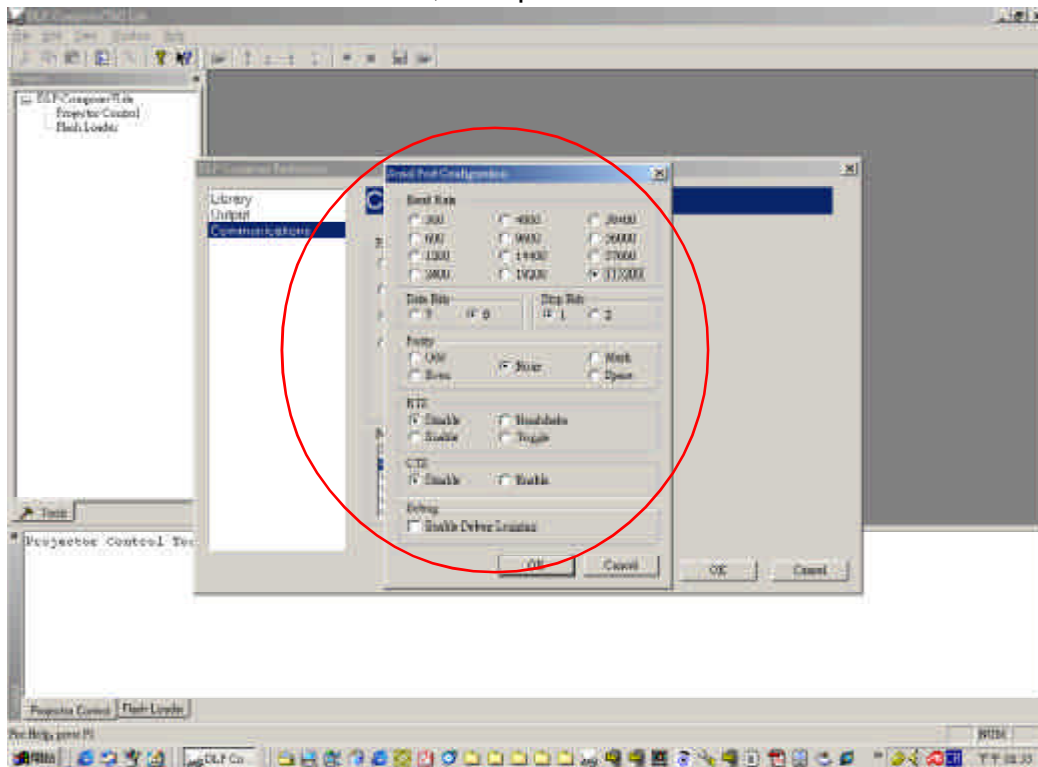
4. Choose “Output”, setting Number of is “2000”.



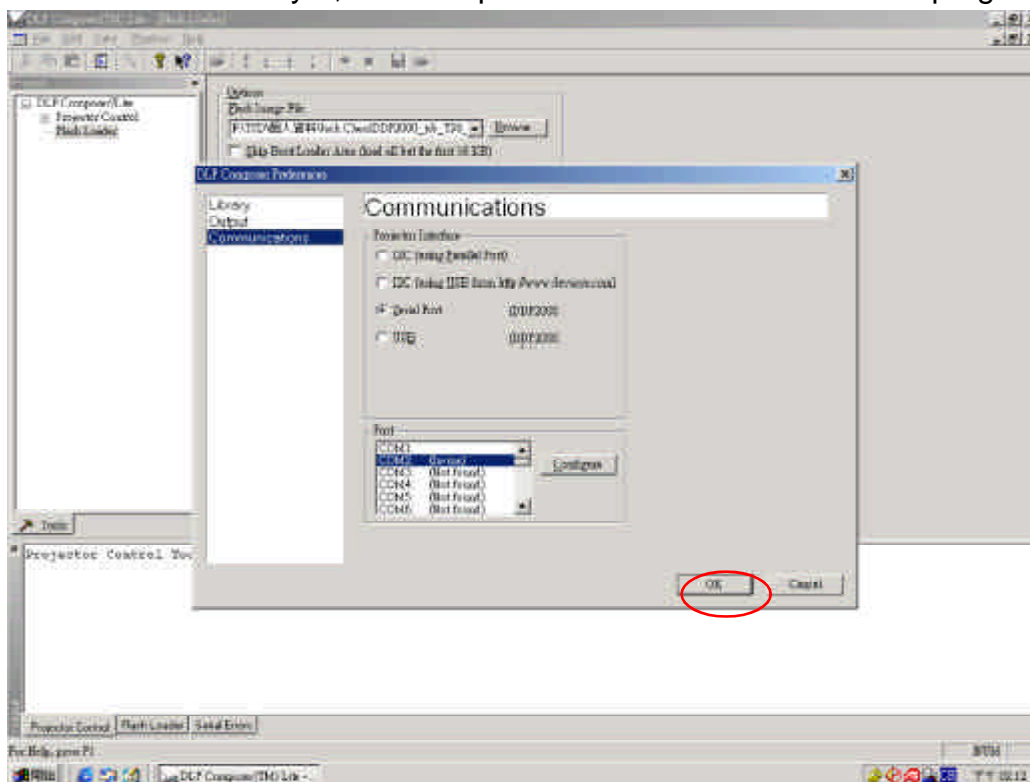
5. Choose “Communications”, setting Port is “COM2” and then press “Configure” button into the next setup procedure.



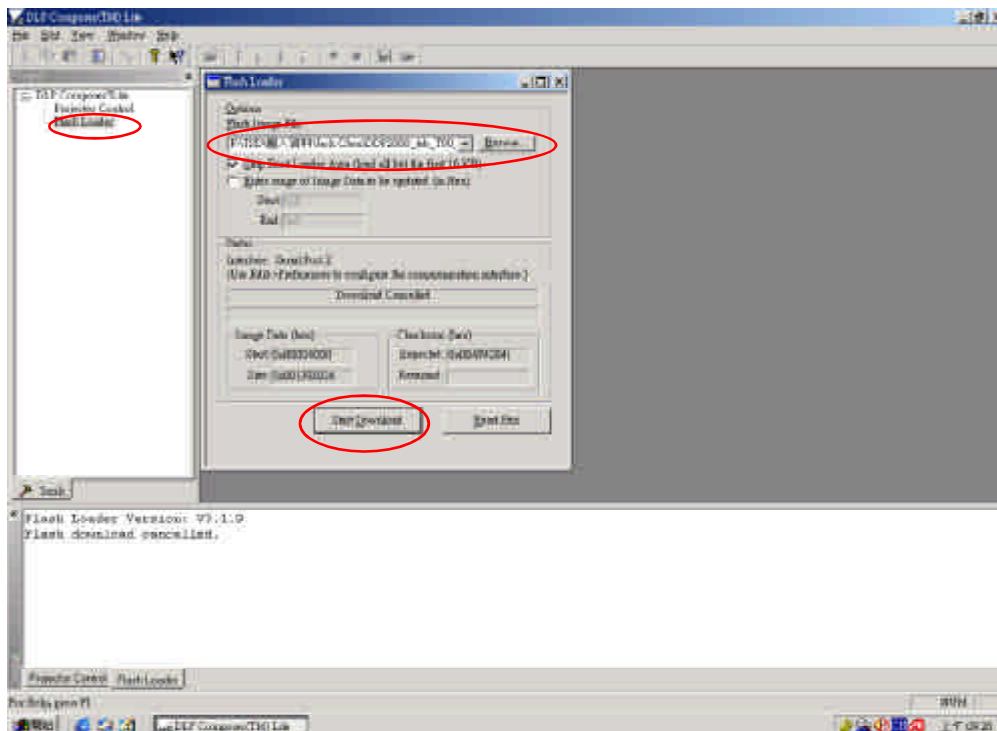
6. Setup the Baud Rate is “115200”, Data Bits is “8”, Stop Bits is “1”, Parity is “None”, RTS is “Disable” and CTS is “Disable”, then press “OK” button.



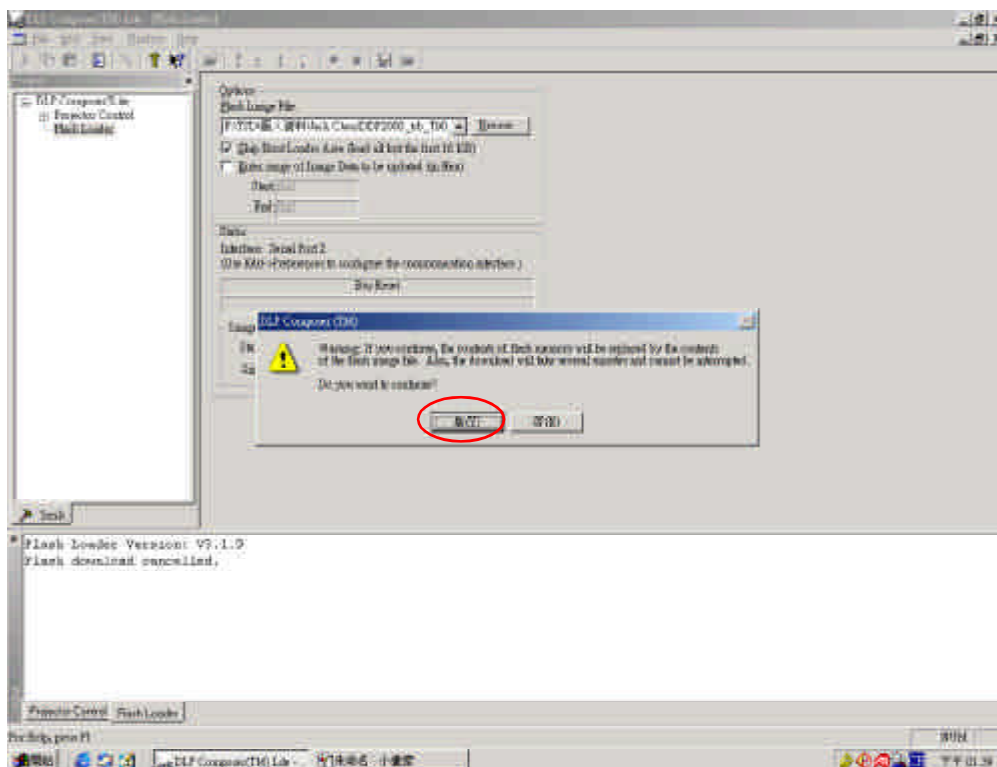
7. Come back to this layer, and then press “OK” button to execute the program.



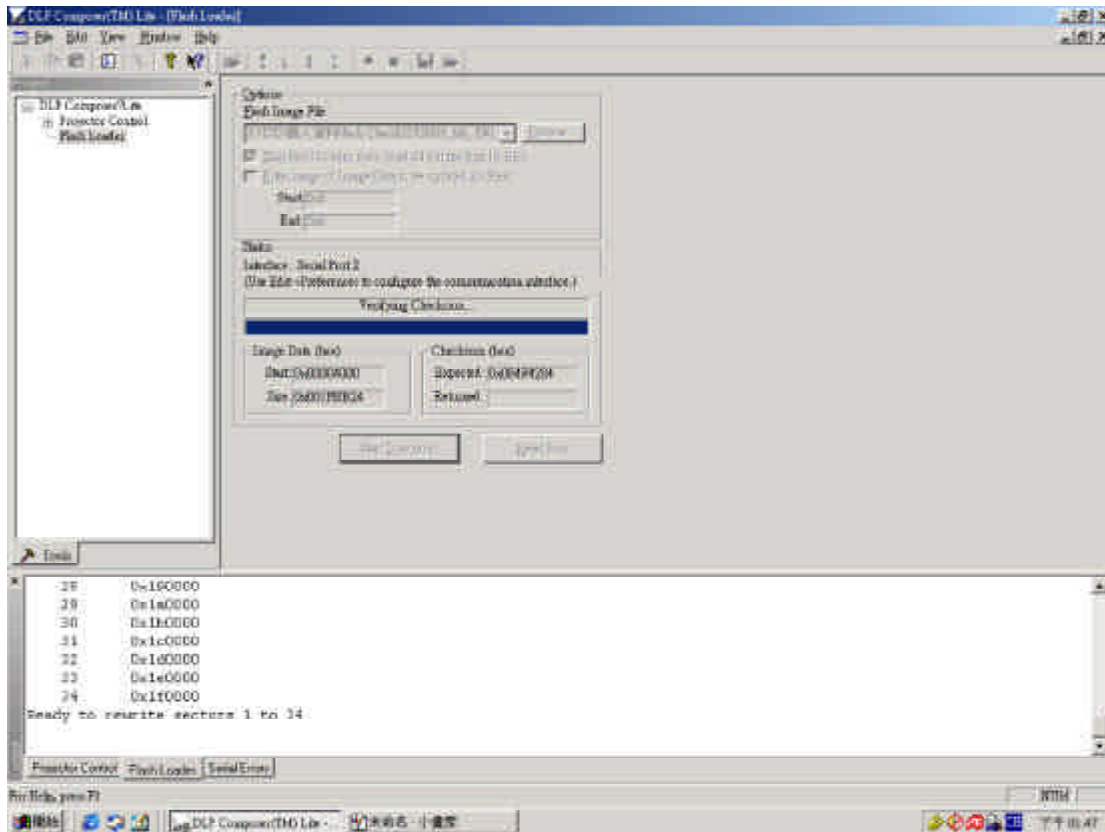
8. Click “Flash Loader.”
Choose the Firmware upgrade program from Browser.
Then press “Start Download” button to execute upgrade program.



9. Press “Yes” button.



10. After the firmware upgrade is complete, power off projector, and then restart it again.



EDID Key-in Procedure (for MT200 Only)

6-1 Equipment Needed

Hardware :

- Power Cord
- DVI To DFP Cable
- RS-232 Cable
- MT200 Projector
- Fixture for MT200



Software :

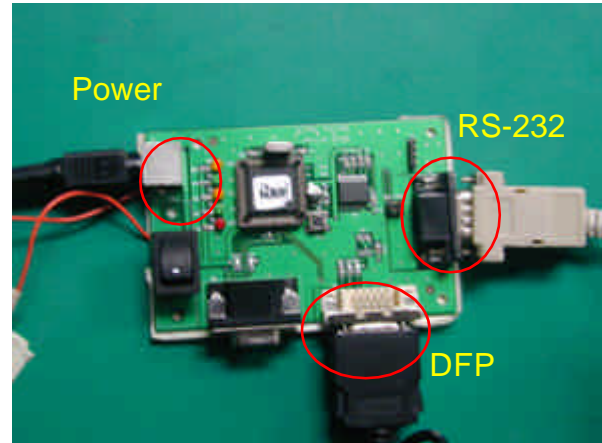
- EDID.exe
- MT_200_EDID.ini

Environment :

- Windows 98 / 2000 / XP

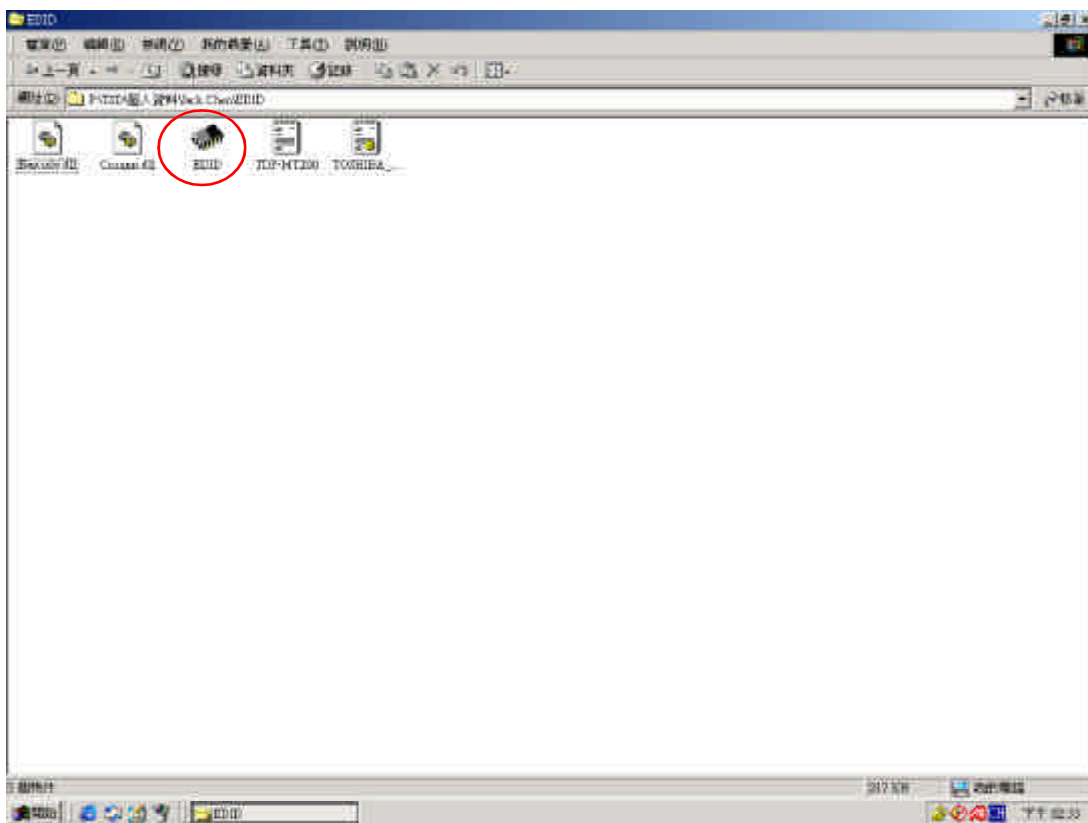
6-2 Setup Procedure

1. Connect DVI-DFP Cable to MT200.
2. Connect RS-232 of Fixture to COM1 of PC. (Can be connected to COM1 or COM2)
3. Connect Power of Fixture.

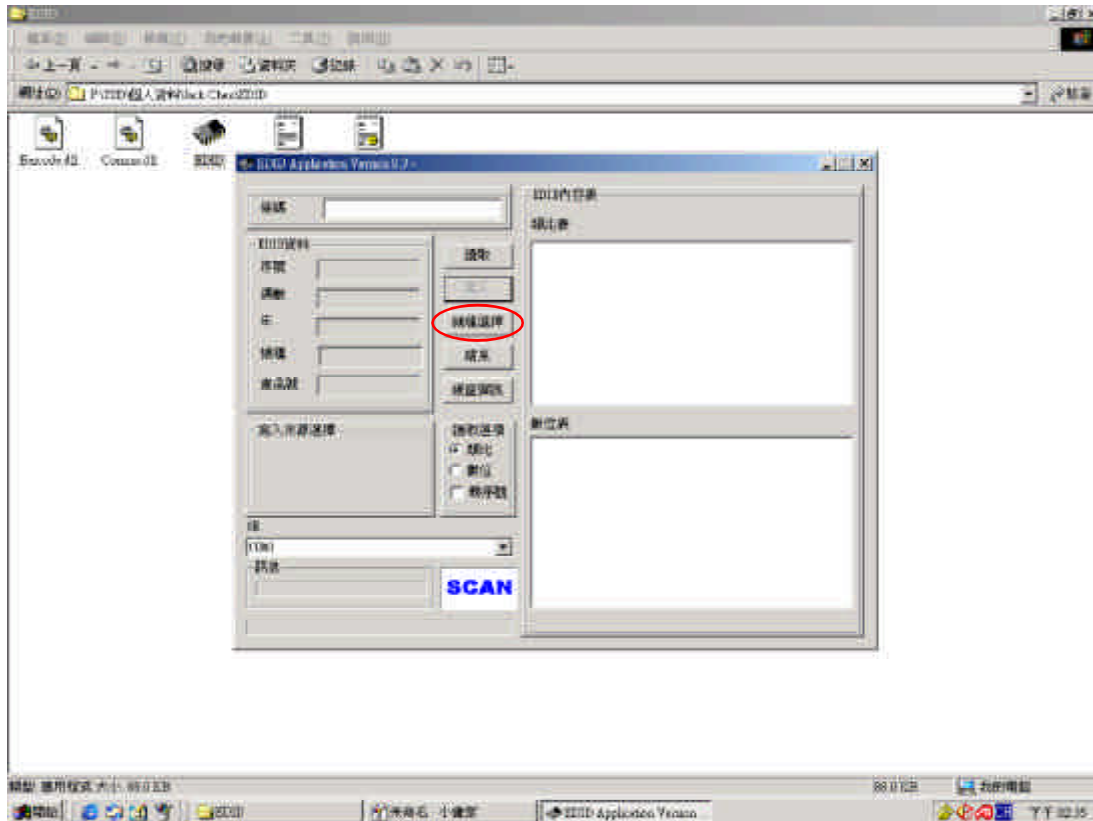


6-3 EDID Upgrade Procedure

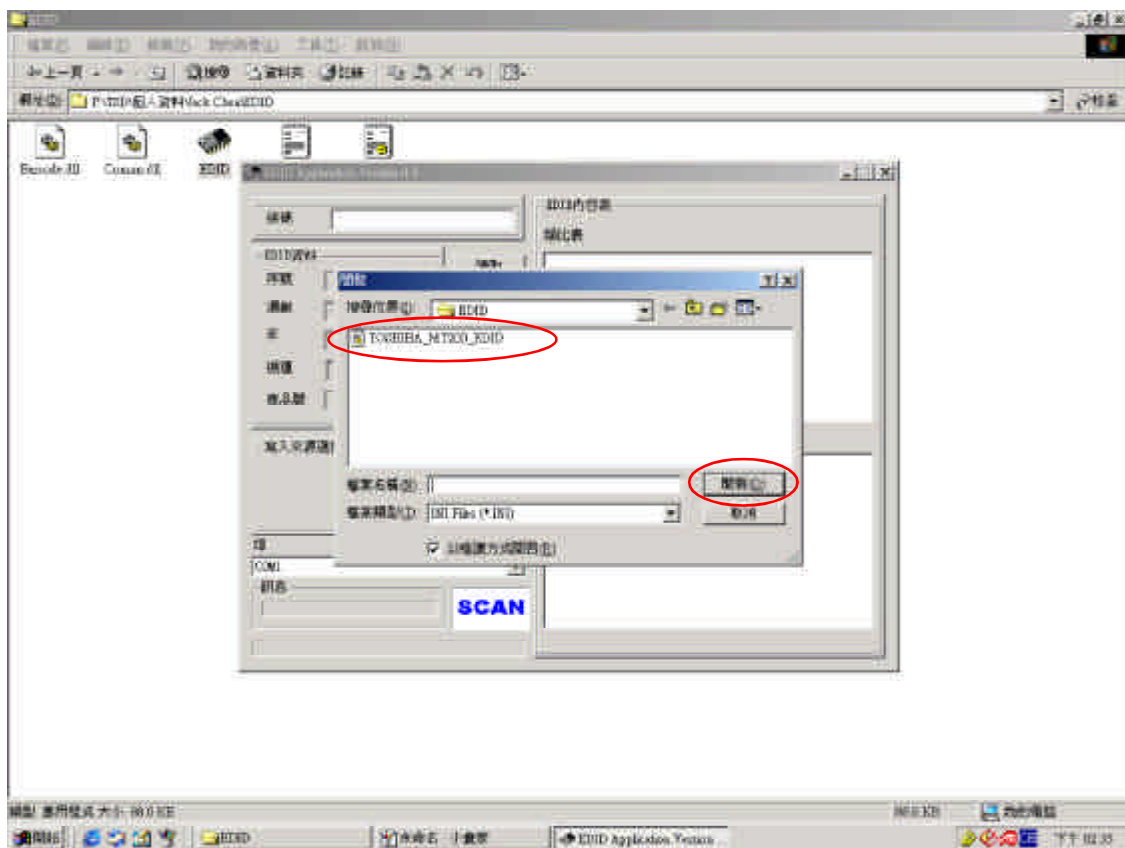
1. Execute "EDID" icon.



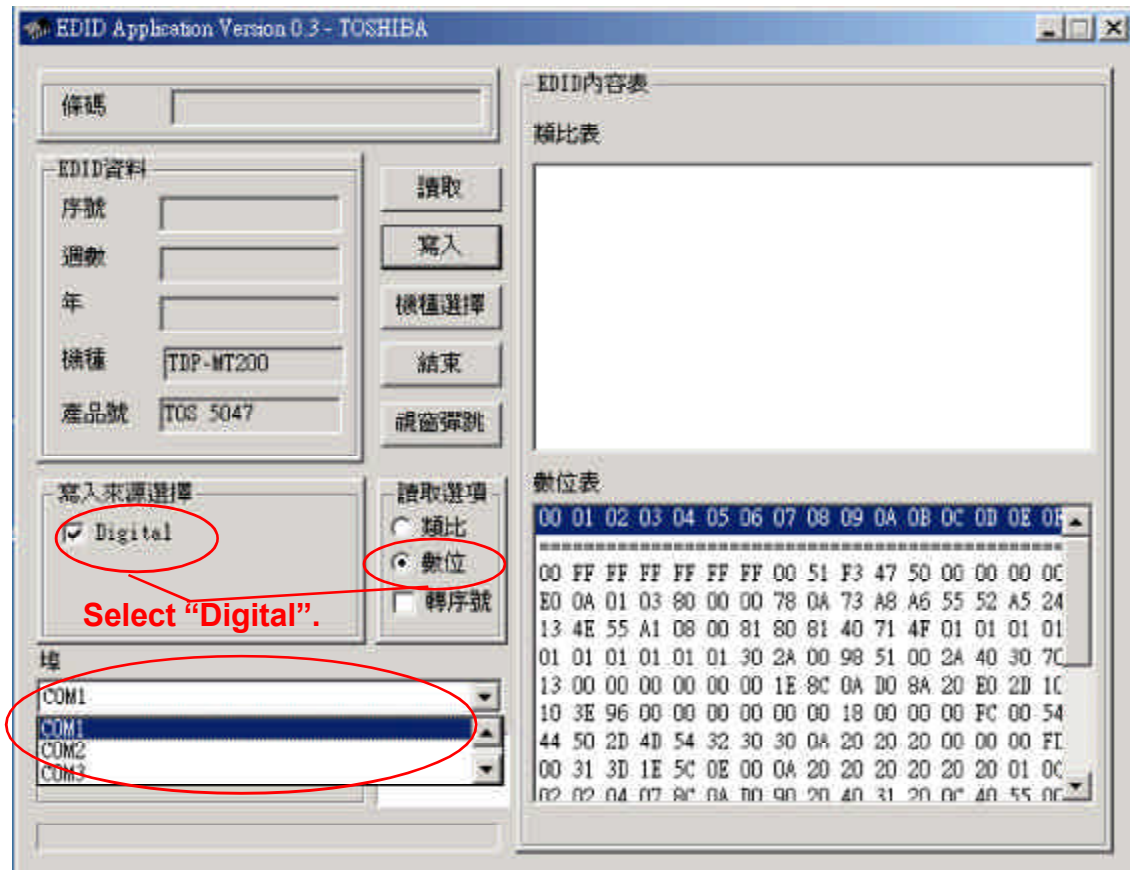
2. Press “Model” icon.



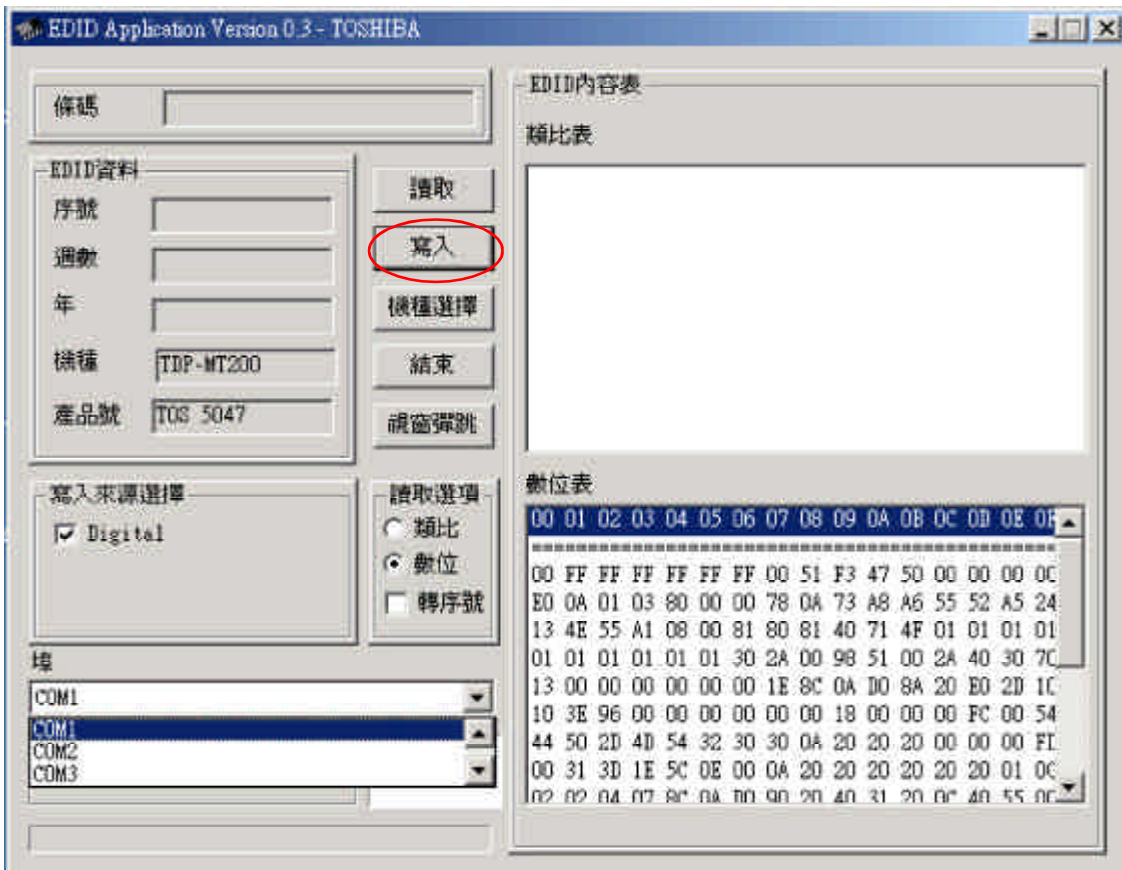
3. Choose the “MT_200_EDID.ini” file then press “open” icon.



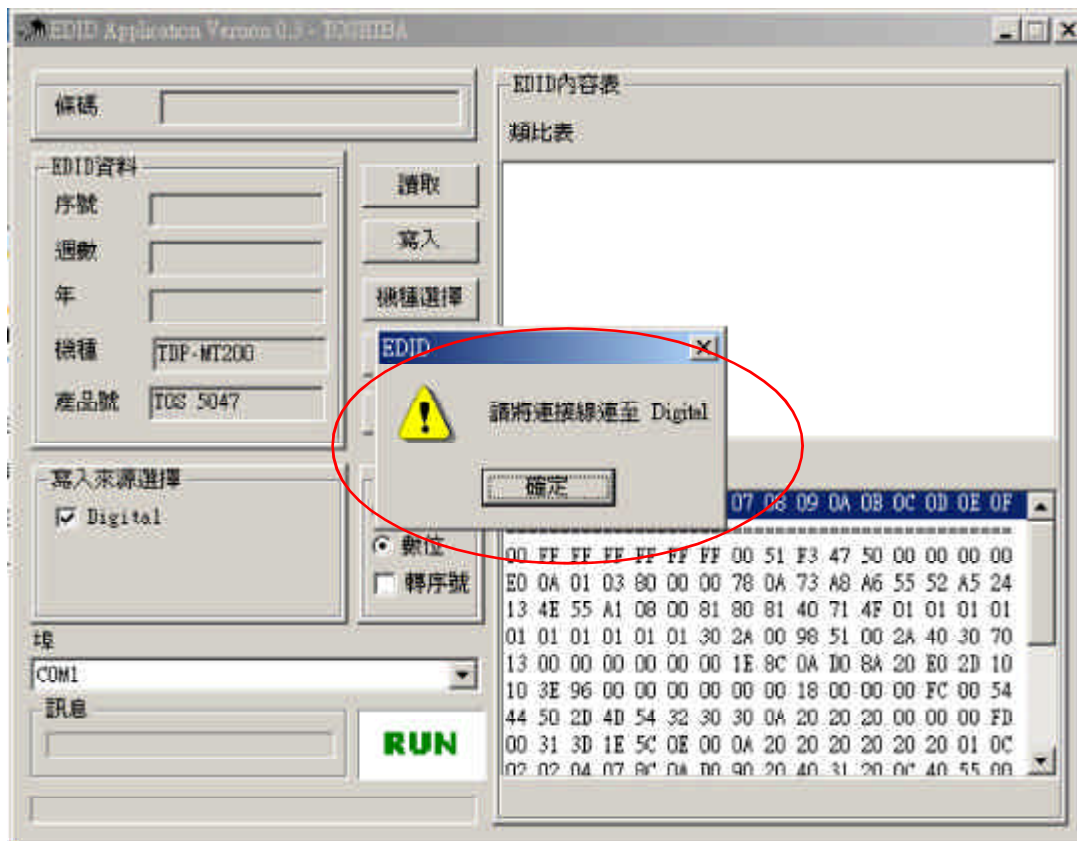
4. Press Port setting button. Setting the right COM Port.



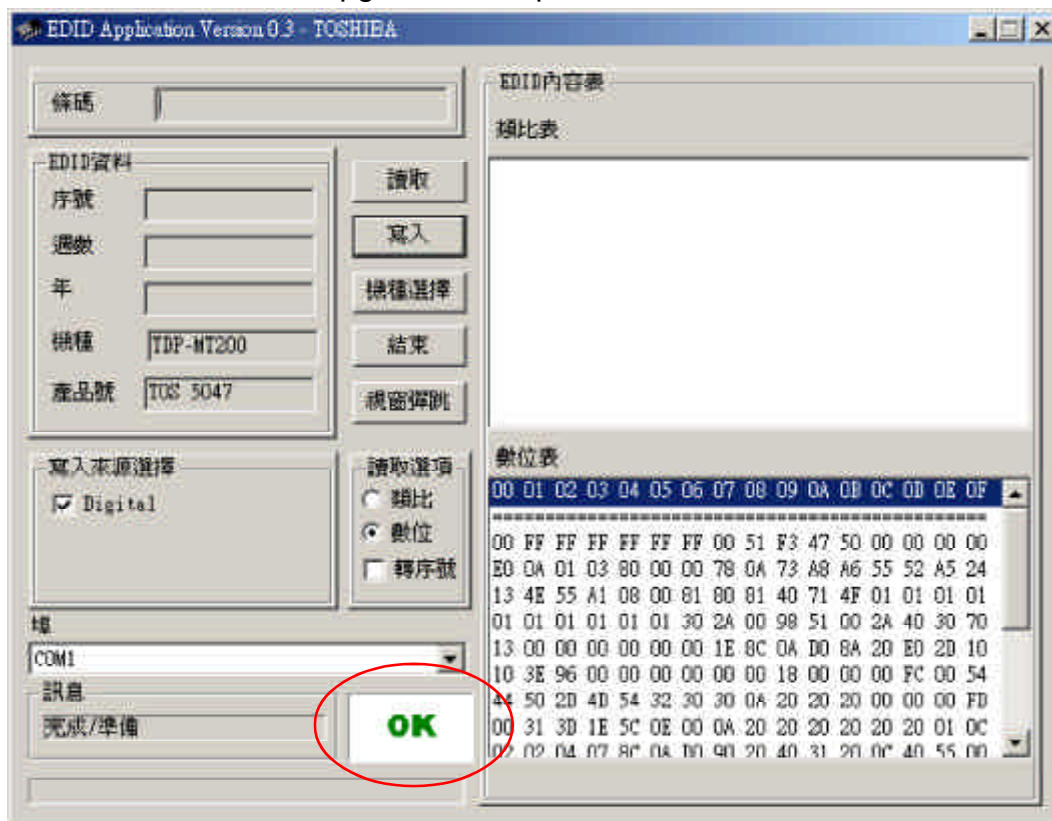
5. Press "Write" icon.



6. The message will shown on the screen.



7. "OK" means the EDID upgrade is complete.



8. Check if EDID is ok, press “Read” button and then the data will show up as step 2 shows.

EDID Application Version 0.3 - TOSHIBA

條碼

EDID資料

序號

週數 224

年 2000

機種 TDP-MT200

產品號 TOS-5047

讀取

寫入

機種選擇

結束

視窗彈跳

寫入來源選擇

☒ Digital

讀取選項

☐ 類比

☒ 數位

☐ 轉序號

埠

COM1

訊息

完成/準備

OK

EDID內容表

類比表

數位表

| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 00 | FF | FF | FF | FF | FF | FF | 00 | 51 | F3 | 47 | 50 | 00 | 00 | 00 | 00 |
| E0 | 04 | 01 | 03 | 00 | 00 | 00 | 78 | 0A | 73 | A8 | A6 | 55 | 52 | A5 | 24 |
| 13 | 4E | 55 | A1 | 08 | 00 | 81 | 80 | 81 | 40 | 71 | 4F | 01 | 01 | 01 | 01 |
| 01 | 01 | 01 | 01 | 01 | 01 | 30 | 2A | 00 | 98 | 51 | 00 | 2A | 40 | 30 | 70 |
| 13 | 00 | 00 | 00 | 00 | 00 | 00 | 1E | 8C | 0A | D0 | 8A | 20 | E0 | 2D | 10 |
| 10 | 3E | 96 | 00 | 00 | 00 | 00 | 00 | 00 | 18 | 00 | 00 | 00 | FC | 00 | 54 |
| 44 | 50 | 2D | 4D | 54 | 32 | 30 | 30 | 0A | 20 | 20 | 20 | 00 | 00 | 00 | FD |
| 00 | 31 | 3D | 1E | 5C | 0E | 00 | 0A | 20 | 20 | 20 | 20 | 20 | 20 | 01 | 0C |
| 02 | 02 | 04 | 07 | 8C | 0A | 00 | 00 | 20 | 40 | 31 | 20 | 0C | 40 | 55 | 00 |

Note : The below information is for English version of Windows.

EDID Application Version 0.3 - UNIVERSAL

Barcode

EDID informations

Serial

Week

Year

Model Universal

Product

Read

Program

Model

Exit

Pop

Write Source Select

☒ Analog

☒ Digital

Read item

☐ Analog

☒ Digital

☐ Trans

Port

COM1

Message

SCAN

EDID values

Analog Values

| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 00 | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 20 | 20 | 20 | 20 | 20 |
| 20 | 0C | 01 | 03 | 00 | 00 | 00 | 00 | 1C | A3 | 0A | 57 | 40 | 00 | 00 | 20 |
| 0C | 49 | 4E | 0F | 1F | 00 | 31 | 59 | A5 | 59 | 81 | 50 | 71 | 4F | 01 | 01 |
| 01 | 01 | 01 | 01 | 01 | 01 | 30 | 2A | 00 | 98 | 51 | 00 | 2A | 40 | 30 | 70 |
| 13 | 00 | 00 | 00 | 00 | 00 | 00 | 1E | 8C | 0A | D0 | 8A | 20 | E0 | 2D | 10 |
| 10 | 3E | 96 | 00 | 00 | 00 | 00 | 00 | 00 | 18 | 00 | 00 | 00 | FC | 00 | 54 |
| 44 | 50 | 2D | 4D | 54 | 32 | 30 | 30 | 0A | 20 | 20 | 20 | 00 | 00 | 00 | FD |
| 00 | 31 | 3D | 1E | 5C | 0E | 00 | 0A | 20 | 20 | 20 | 20 | 20 | 20 | 01 | 0C |
| 02 | 02 | 04 | 07 | 8C | 0A | 00 | 00 | 20 | 40 | 31 | 20 | 0C | 40 | 55 | 00 |

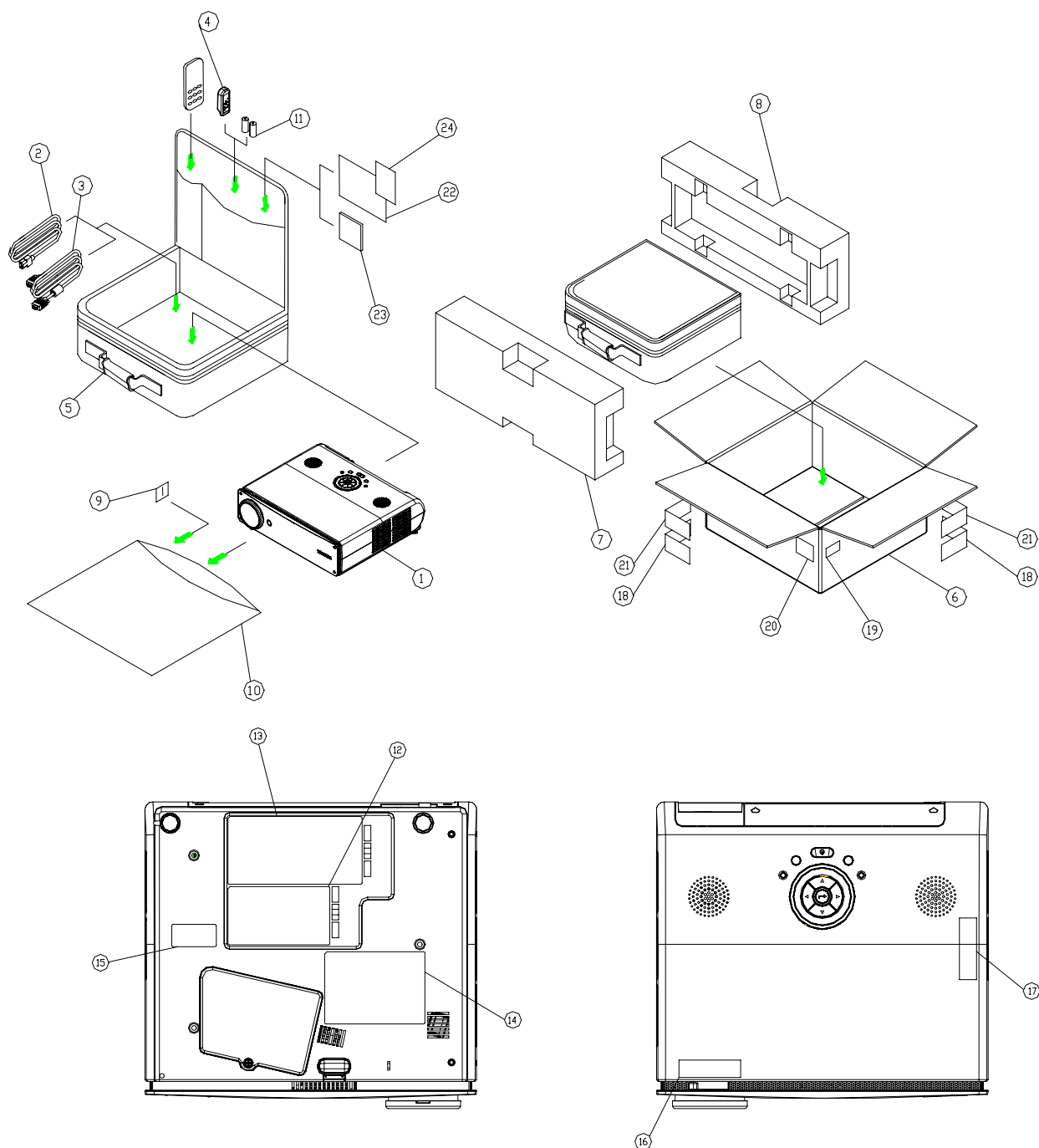
Digital Values

| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 00 | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 20 | 20 | 20 | 20 | 20 |
| 20 | 0C | 01 | 03 | 00 | 00 | 00 | 00 | 1C | A3 | 0A | 57 | 40 | 00 | 00 | 20 |
| 0C | 49 | 4E | 0F | 1F | 00 | 31 | 59 | A5 | 59 | 81 | 50 | 71 | 4F | 01 | 01 |
| 01 | 01 | 01 | 01 | 01 | 01 | 30 | 2A | 00 | 98 | 51 | 00 | 2A | 40 | 30 | 70 |
| 13 | 00 | 00 | 00 | 00 | 00 | 00 | 1E | 8C | 0A | D0 | 8A | 20 | E0 | 2D | 10 |
| 10 | 3E | 96 | 00 | 00 | 00 | 00 | 00 | 00 | 18 | 00 | 00 | 00 | FC | 00 | 54 |
| 44 | 50 | 2D | 4D | 54 | 32 | 30 | 30 | 0A | 20 | 20 | 20 | 00 | 00 | 00 | FD |
| 00 | 31 | 3D | 1E | 5C | 0E | 00 | 0A | 20 | 20 | 20 | 20 | 20 | 20 | 01 | 0C |
| 02 | 02 | 04 | 07 | 8C | 0A | 00 | 00 | 20 | 40 | 31 | 20 | 0C | 40 | 55 | 00 |

Appendix A

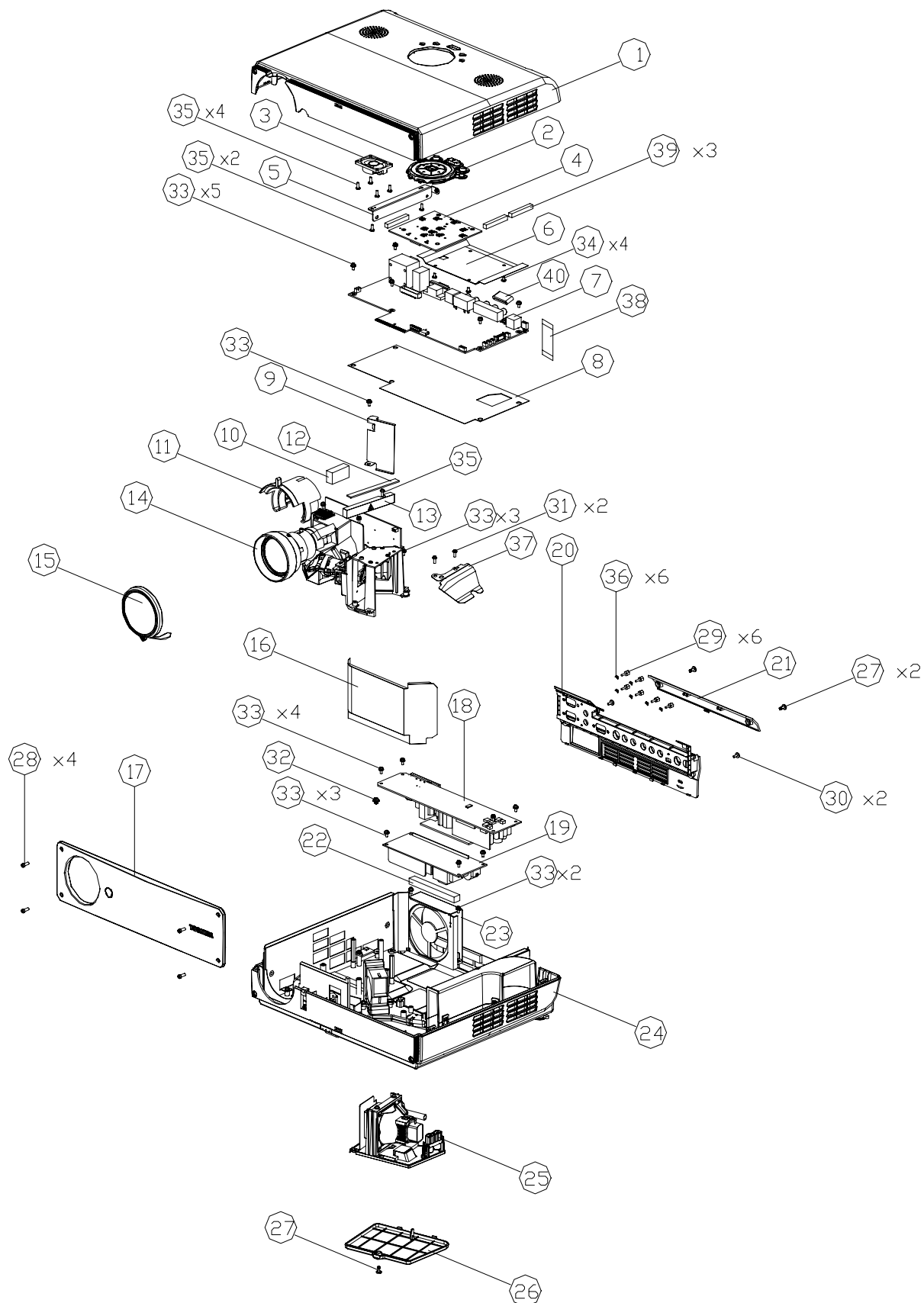
I. Exploded Overview for T9X Series

Packing (DP.80S01G00A) for T9X Series



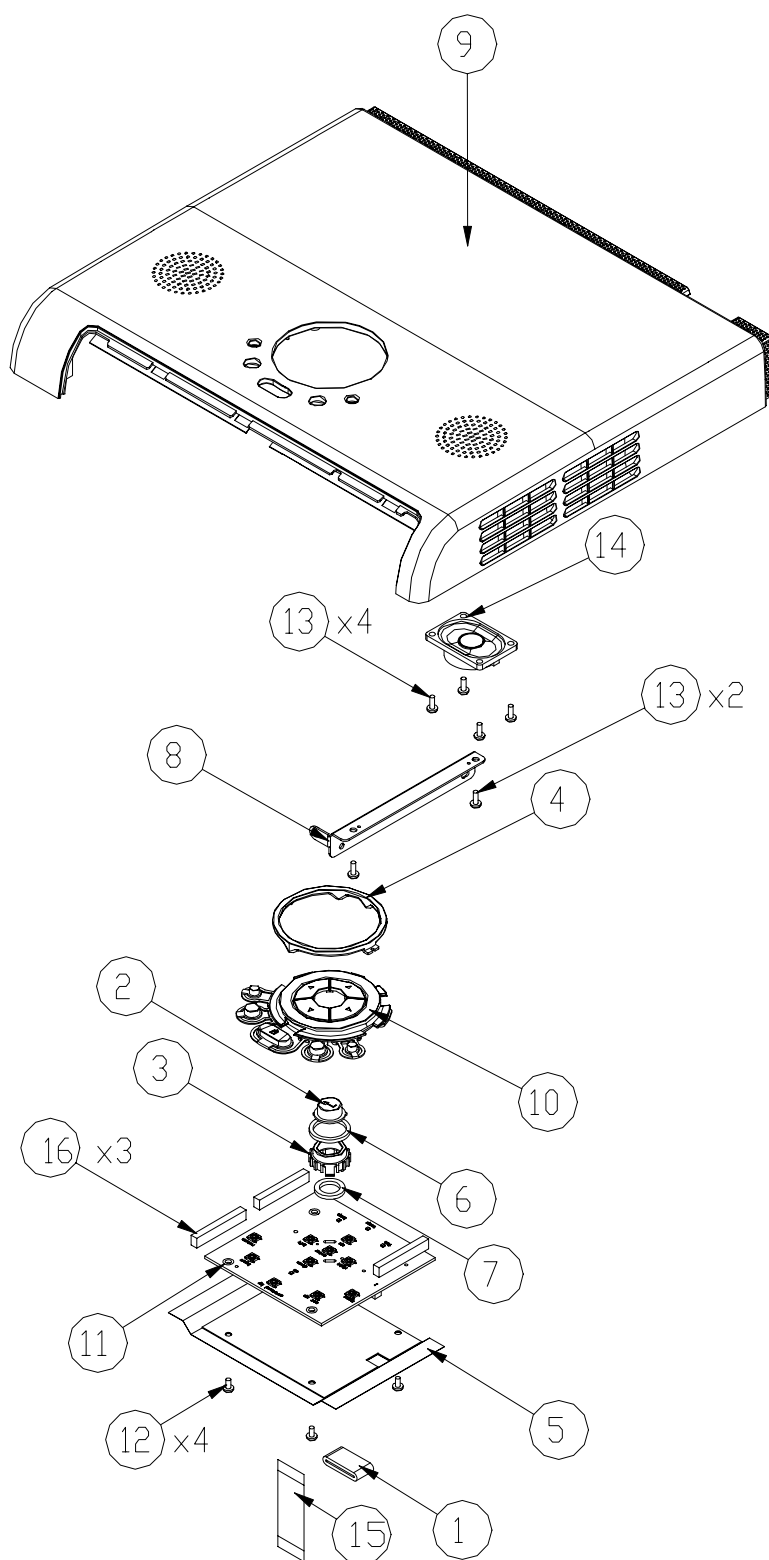
Note: Please refer to RSPL for updated Part Number.

D.C. TDP-T90 "GREEN" (DC.80S01G001) for T9X series



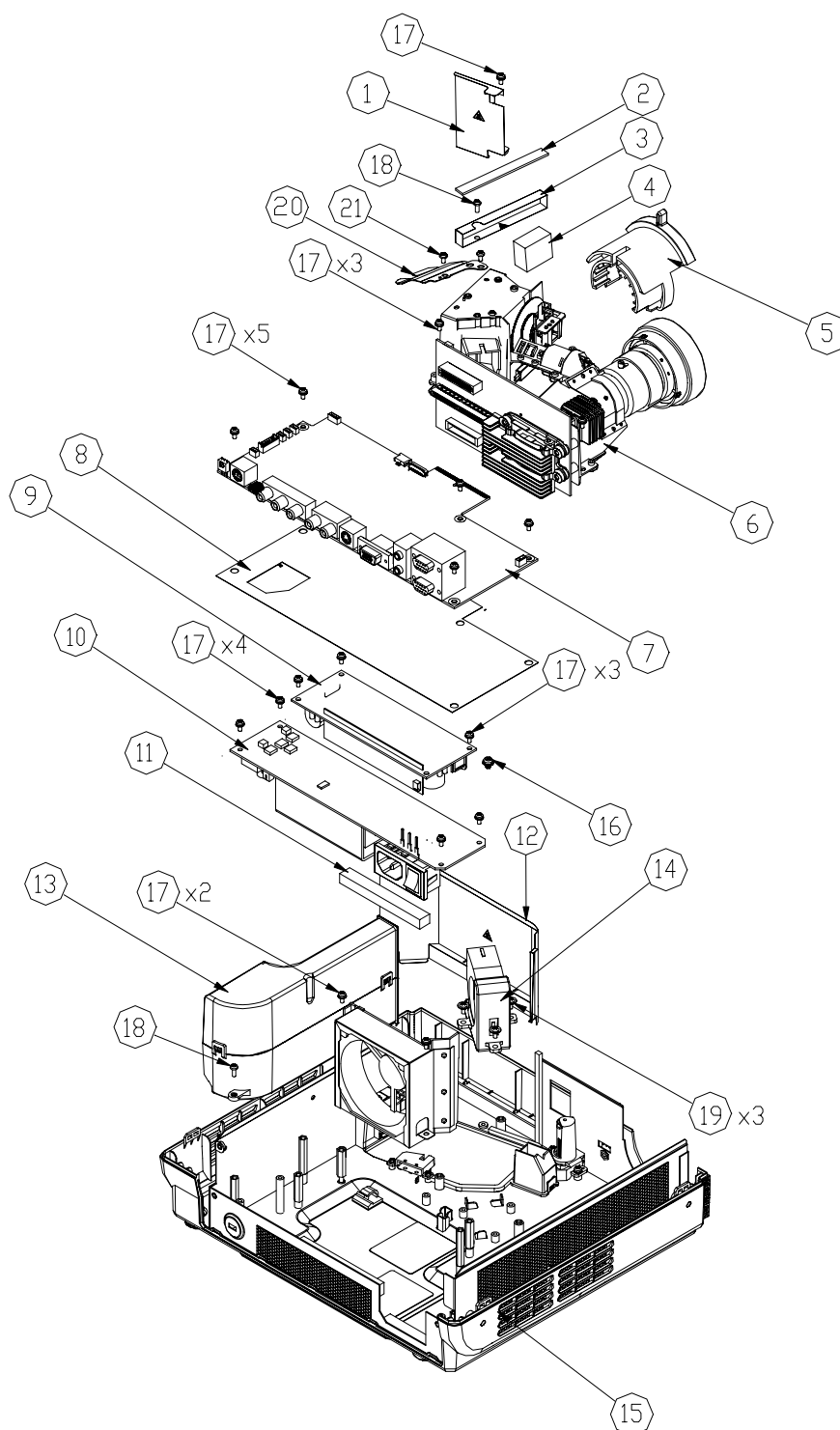
Note: Please refer to RSPL for updated Part Number.

Top Cover Module (70.80S01G001) for T9X series



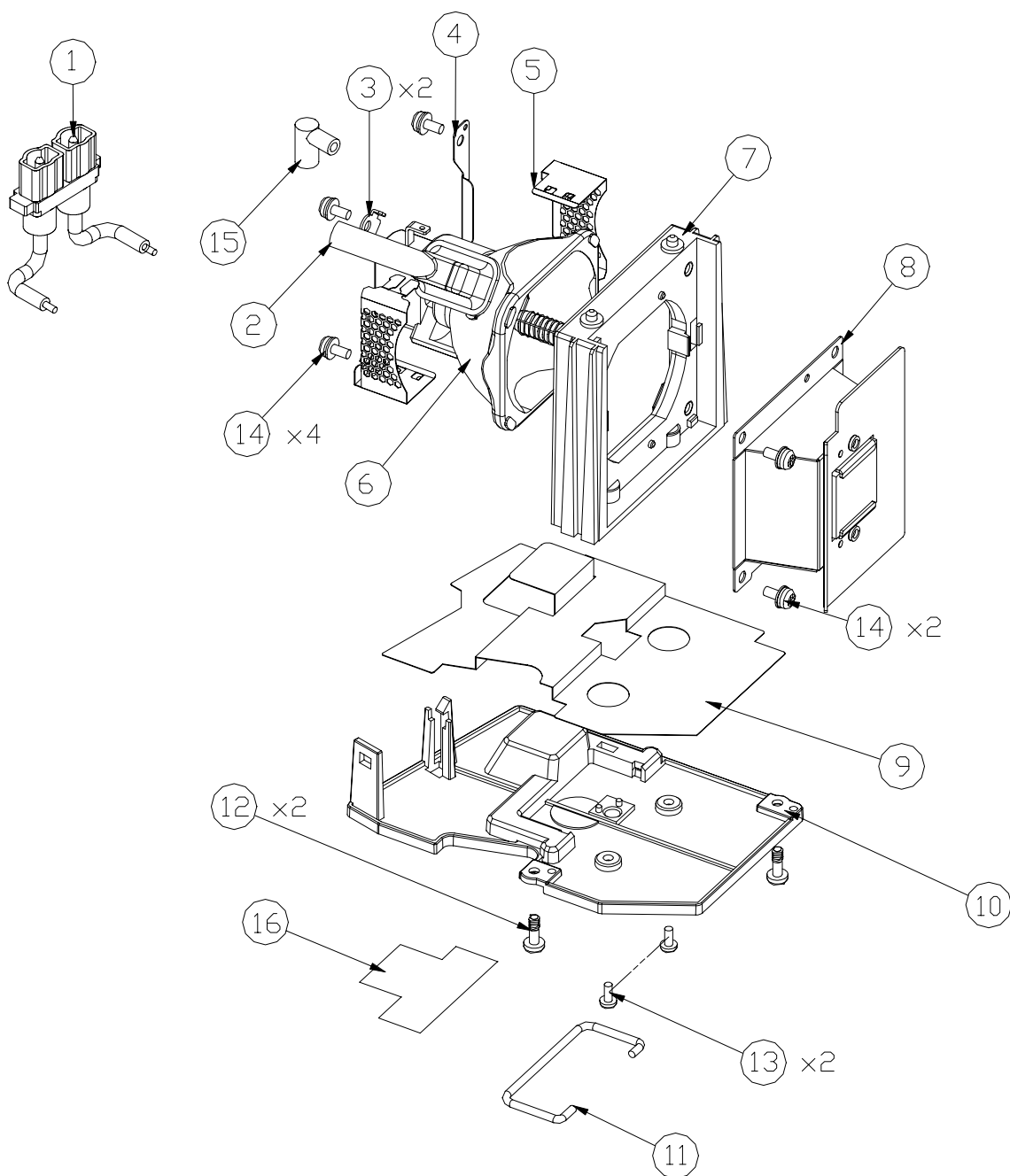
Note: Please refer to RSPL for updated Part Number.

Bottom Cover Module (70.80S02G001) for T9X series



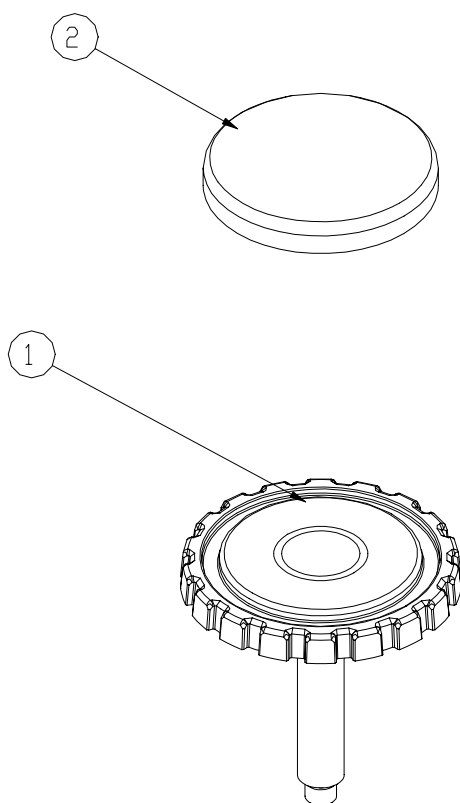
Note: Please refer to RSPL for updated Part Number.

Lamp Module (70.80S04G001) for T9X series



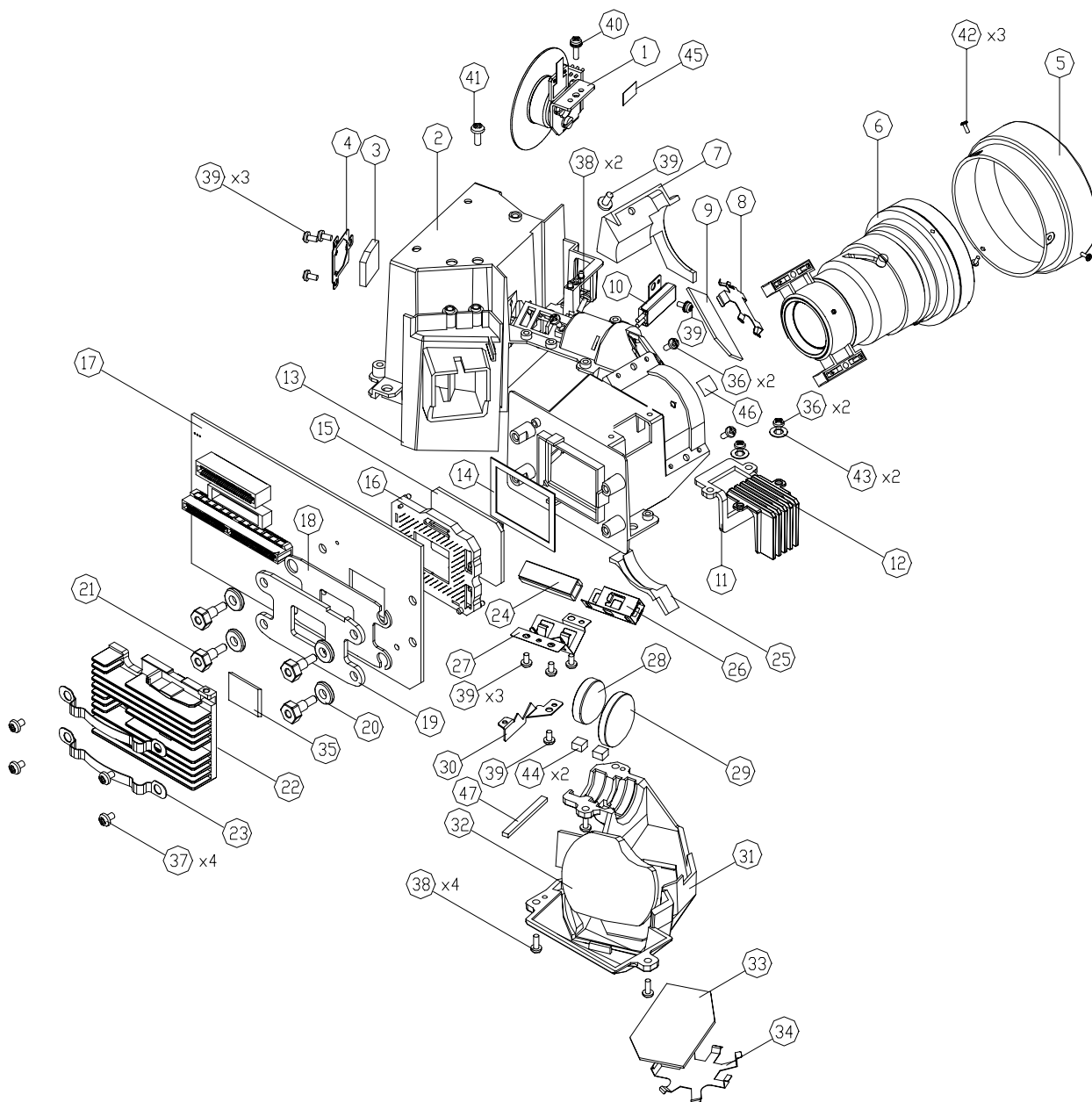
Note: Please refer to RSPL for updated Part Number.

Adjust Foot Module (70.80S05G001) for T9X series



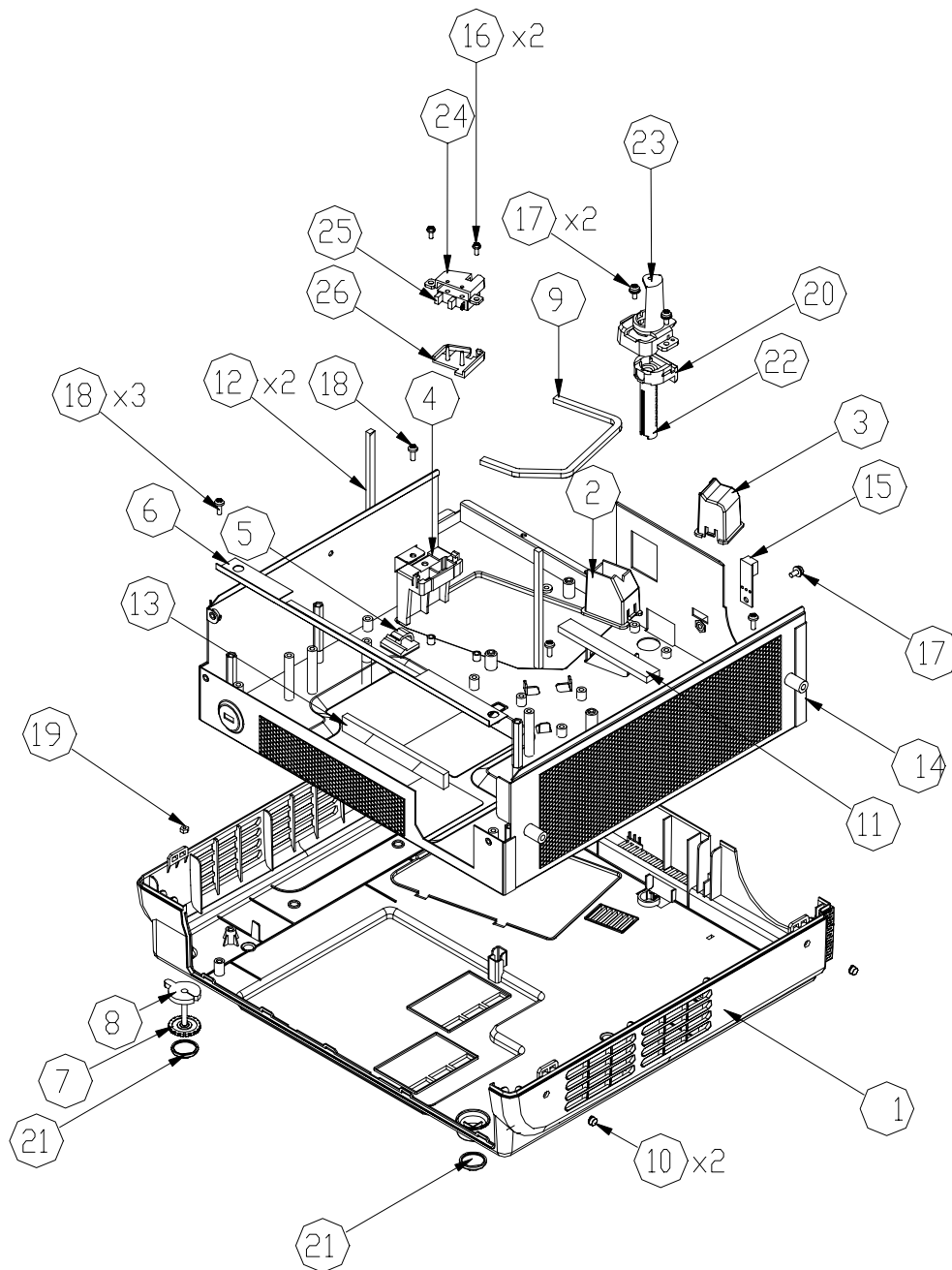
Note: Please refer to RSPL for updated Part Number.

Engine Module (70.80S06G001) for T9X series



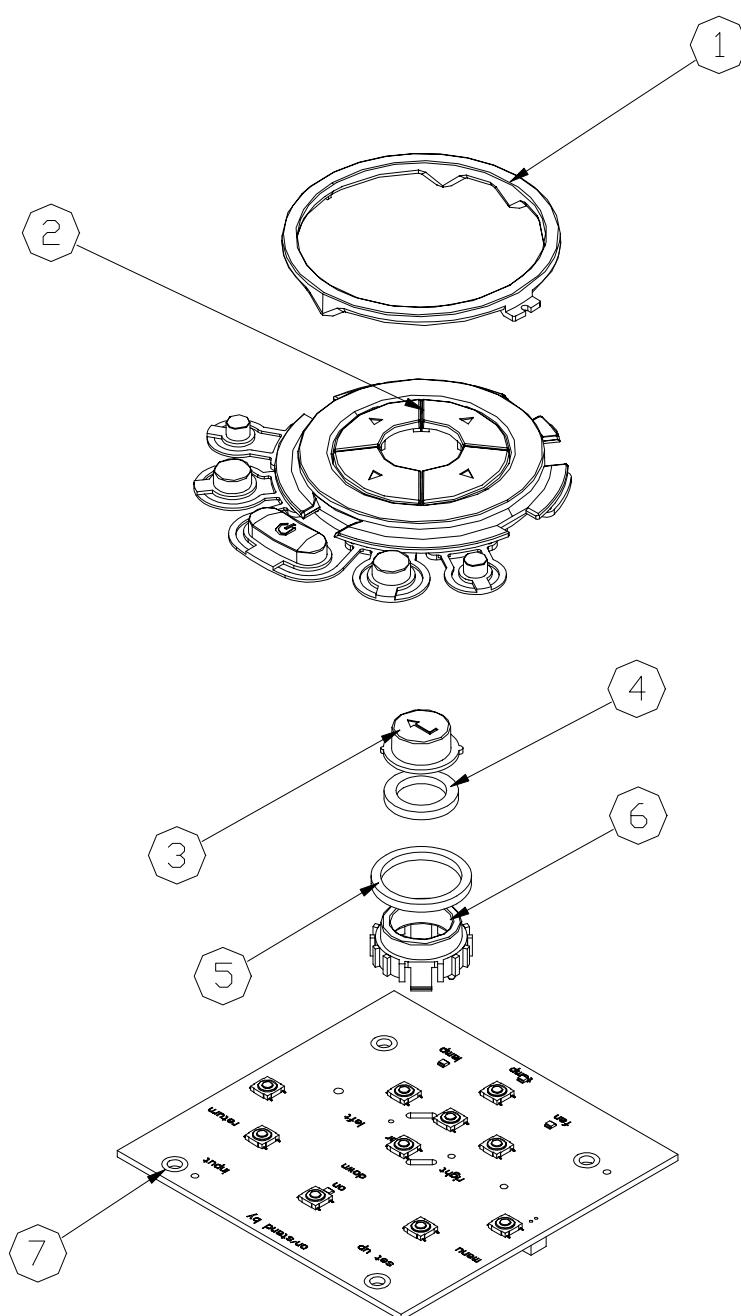
Note: Please refer to RSPL for updated Part Number.

Bottom Cover (70.80S07G001) for T9X series



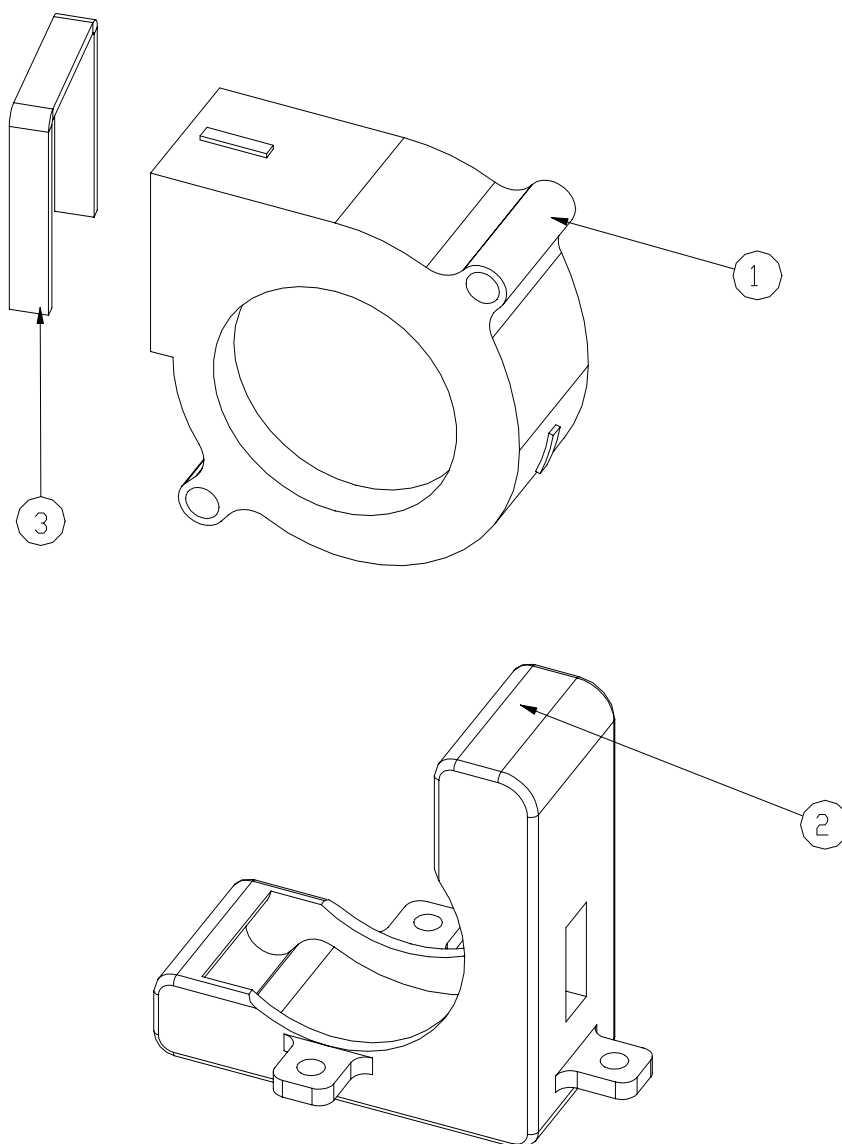
Note: Please refer to RSPL for updated Part Number.

Key Pad Module (70.80S08G001) for T9X series



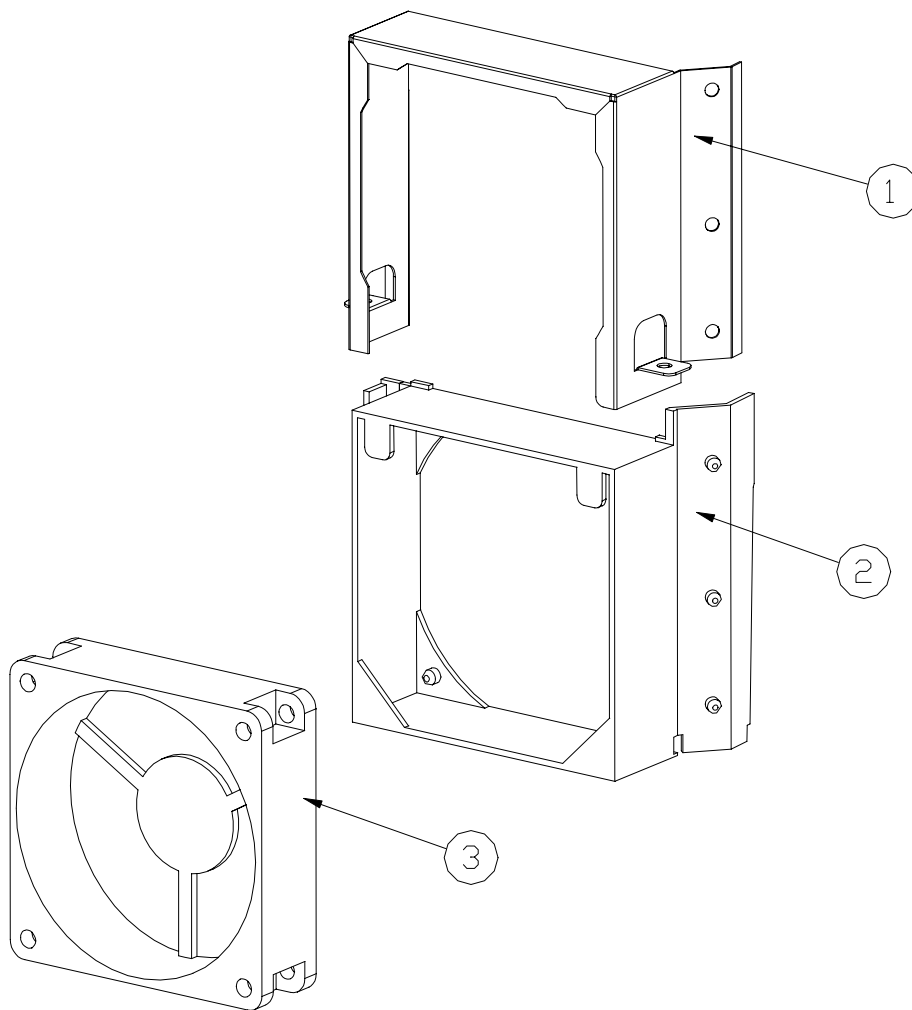
Note: Please refer to RSPL for updated Part Number.

Blower Module (70.80S12G001) for T9X series



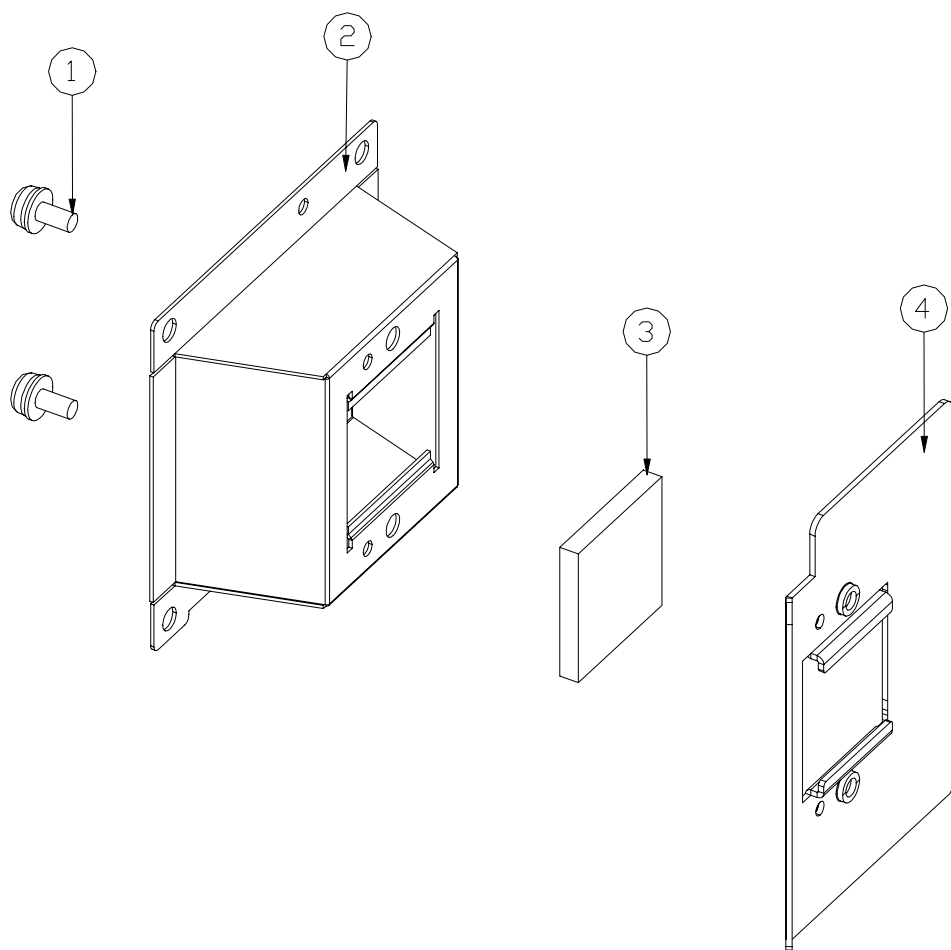
Note: Please refer to RSPL for updated Part Number.

Fan Module (70.80S13G001) for T9X series



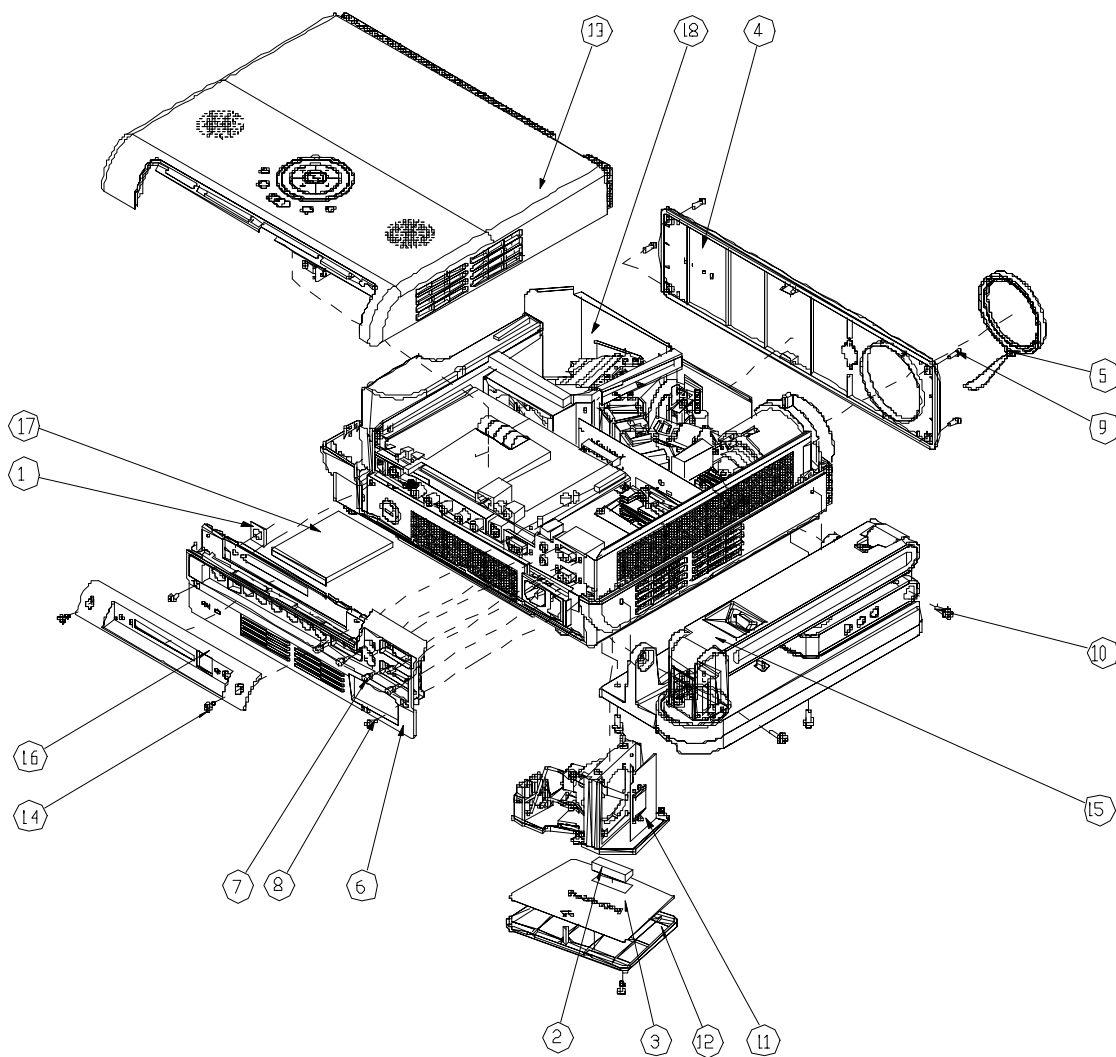
Note: Please refer to RSPL for updated Part Number.

Cover Glass Holder (70.80S14G001)



Note: Please refer to RSPL for updated Part Number.

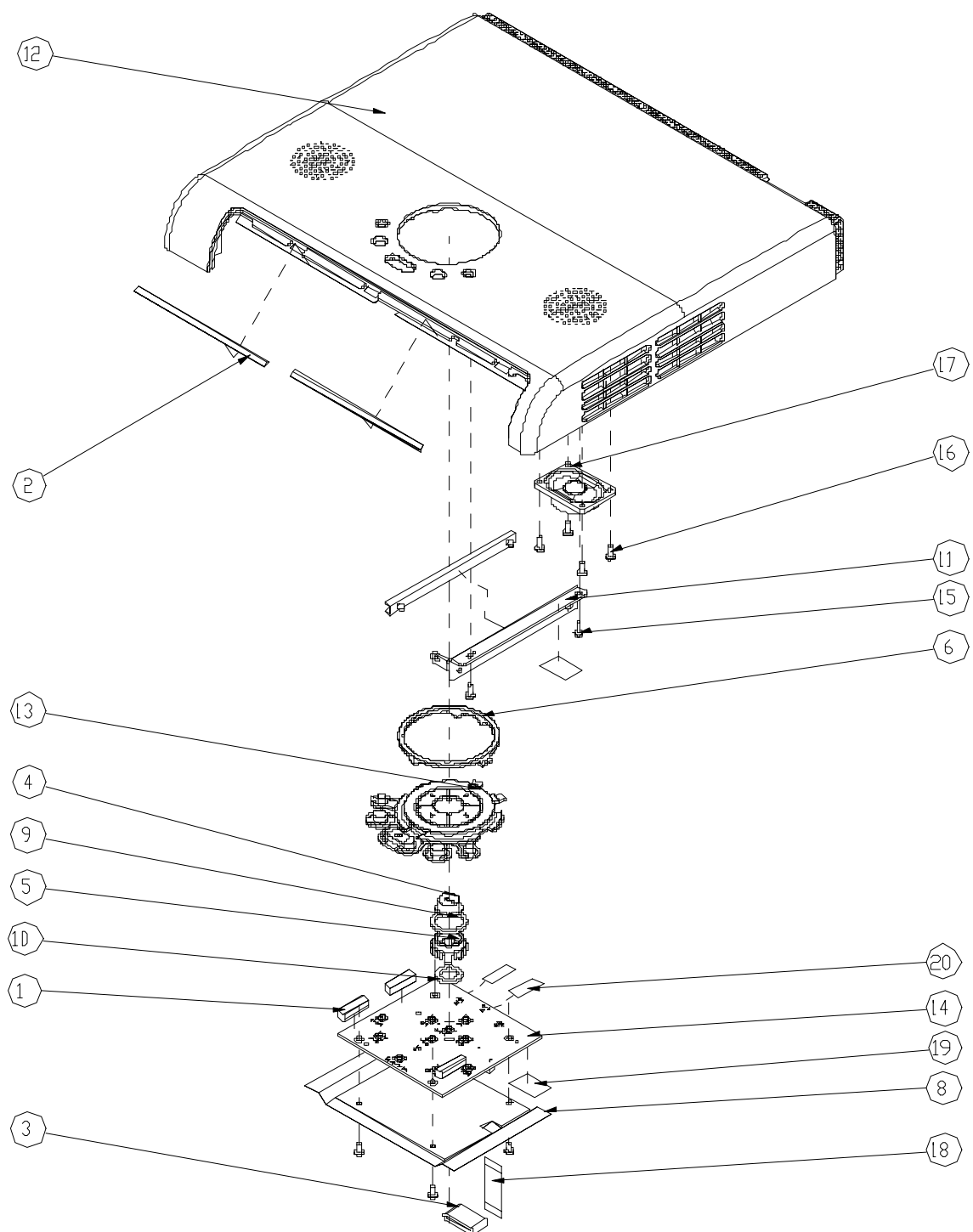
II. Exploded Overview for S8X/T90A Series



Note: Please refer to RSPL for updated Part Number.

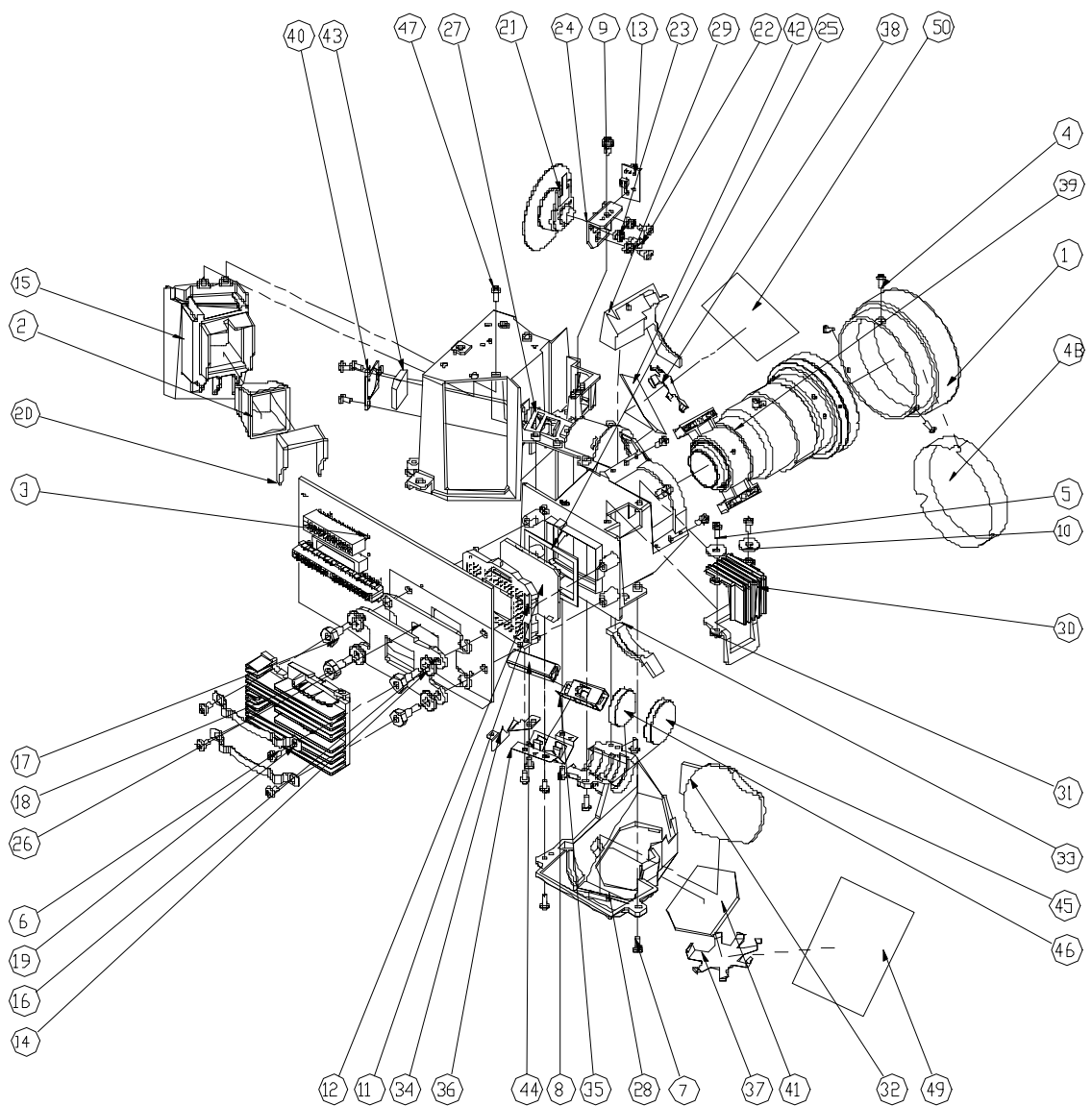
| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|--|------|
| 1 | 52-82C01GD01 | A | PE FORM FOR JR 14.8x14.8x2mm | 1 |
| 2 | 52-82C03GD01 | A | SILICON RUBBER 10x30x7mm "GREEN" | 1 |
| 3 | 61-B2C04GD01 | B | EMI AL FOIL FOR LAMP COVER 0.2T "GREEN" | 1 |
| 4 | 75-80S03GD01 | A | ASSY FRONT COVER TDP-T90 "GREEN" | 1 |
| 5 | 75-80S04GD12 | A | LENS CAP MODULE "GRAY" TDP-T90 "GREEN" | 1 |
| 6 | TABLE | A | ASSY REAR COVER & SHIELDING TDP-T90 | 1 |
| 7 | 85-0H1AGGD75 | A | Hex I/O #4-40xH4xL75 Ni Nyllok | 6 |
| 8 | 85-0A323GD60 | A | SCREW P/F MECH M3*6 BLACK "GREEN" | 2 |
| 9 | 85-1D026GD80 | A | SCREW PAN INNER HEX MECH M2.6*8mm | 4 |
| 10 | 85-1F324GL20 | A | Screw Pan w/SF M4x12 Black | 4 |
| 11 | 70.B3L07GD01 | A | ASSY LAMP MODULE PHILIPS E-19V | 1 |
| 12 | 51-80S22GD03 | A | LAMP COVER PC+ABS-CA01A TDP-T91 | 1 |
| 13 | TABLE | A | ASSY TOP COVER MODULE TDP-T90A Series | 1 |
| 14 | 61-86111GD01 | A | TRIPOD BASE SCREW B.6L STEEL BRIGHTMAN | 3 |
| 15 | TABLE | A | CAMERA MODULE TDP-T90 "GREEN" | 1 |
| 16 | TABLE | A | OPTION COVER(BLANK) PC+ABS-CA01A | 1 |
| 17 | TABLE | A | 2.4Ghzs WSSS WIRELESS PCMCIA CARD TDP-TW90 CDD | 1 |
| 18 | TABLE | A | ASSY BOTTOM COVER TDP-T90A Series | 1 |

Note: Please refer to RSPL for updated Part Number.



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|--|------|
| 1 | 41-80S04G001 | A | EMI GASKET 5*5*20 mm "GREEN" | 3 |
| 2 | 41-80S15G001 | A | EMI GASKET W4*H1*L105mm "GREEN" | 2 |
| 3 | 41-B31D1G001 | A | EMI GASKET W4*H1*L105mm "GREEN" | 1 |
| 4 | 51-80S07G001 | A | KEYPAD FPC CORE 24.5*5*12 "GREEN" | 1 |
| 5 | 51-80S08G001 | A | FIX HOLDER PC+ABS-Cr PLATING TDP-T9D | 1 |
| 6 | 51-80S14G001 | A | LED LENS RING PC-WHITE TDP-T9D | 1 |
| 7 | 51-80S30G001 | A | CARD GUIDE CG-400 TDP-T9D | 1 |
| 8 | 51-80S35G001 | A | KEYPAD INSULATOR AL+MYLAR TDP-T9D | 1 |
| 9 | 52-80S01G001 | A | KEY PAD SPRING | 1 |
| 10 | 52-80S02G001 | A | ENTER KEY SPRING | 1 |
| 11 | 61-80S06G001 | A | CARD GUIDE BRKT | 1 |
| 12 | TABLE | A | ASSY TOP COVER&SHIELDING TDP-T90A Series | 1 |
| 13 | 75-80S08G001 | A | ASSY BUTTON TDP-T9D "GREEN" | 1 |
| 14 | 80-80SD3G001 | D | PCBA KEYPAD BOARD | 1 |
| 15 | B5-TA123G060 | A | SCREW CAP TAP M3*6 Ni "GREEN" | 4 |
| 16 | B5-UA123G070 | A | SCREW PAN TAP M3*7 Ni "GREEN" | 6 |
| 17 | 49-80S03G001 | B | SPEAKER-2W 16 Ohm "GREEN" | 1 |
| 18 | 42-80S02G001 | B | FFC CABLE 24P 120mm TDP-T9D "GREEN" | 1 |
| 19 | 41-80S08G001 | A | EMI TAPE 20*30mm "GREEN" | 2 |
| 20 | 41-80S09G001 | A | EMI TAPE 10*25mm | 2 |

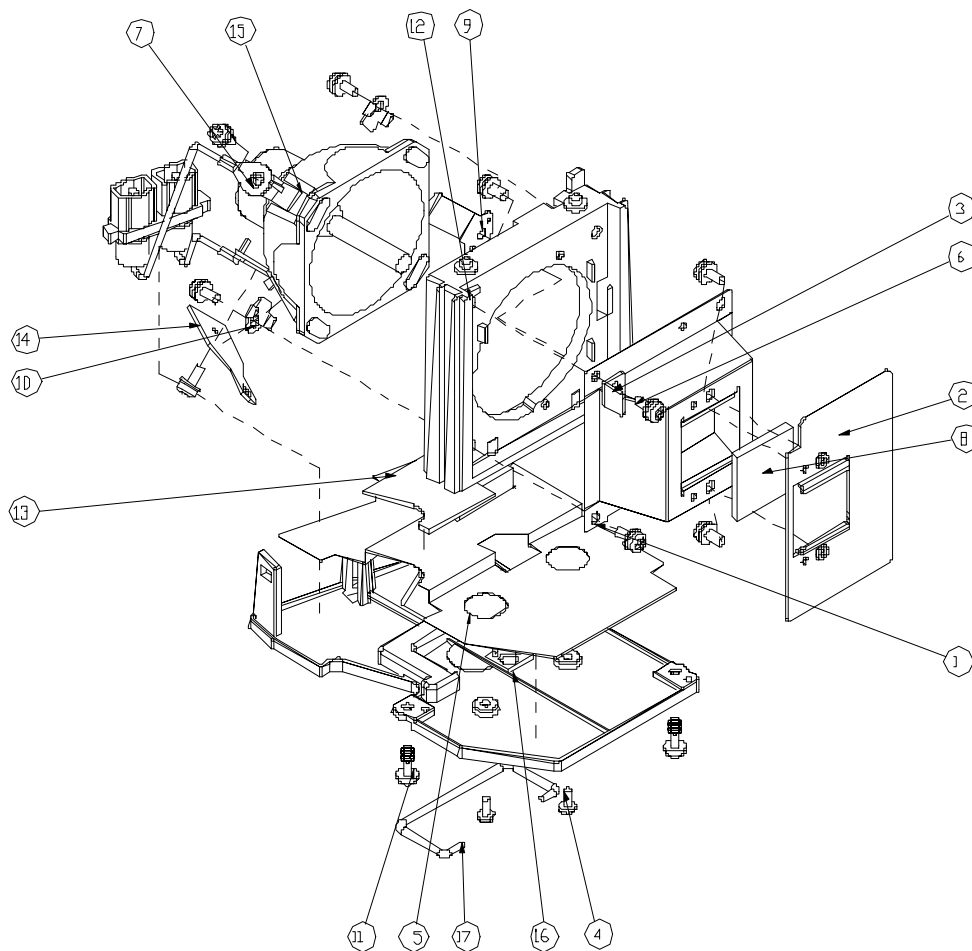
Note: Please refer to RSPL for updated Part Number.



Note: Please refer to RSPL for updated Part Number.

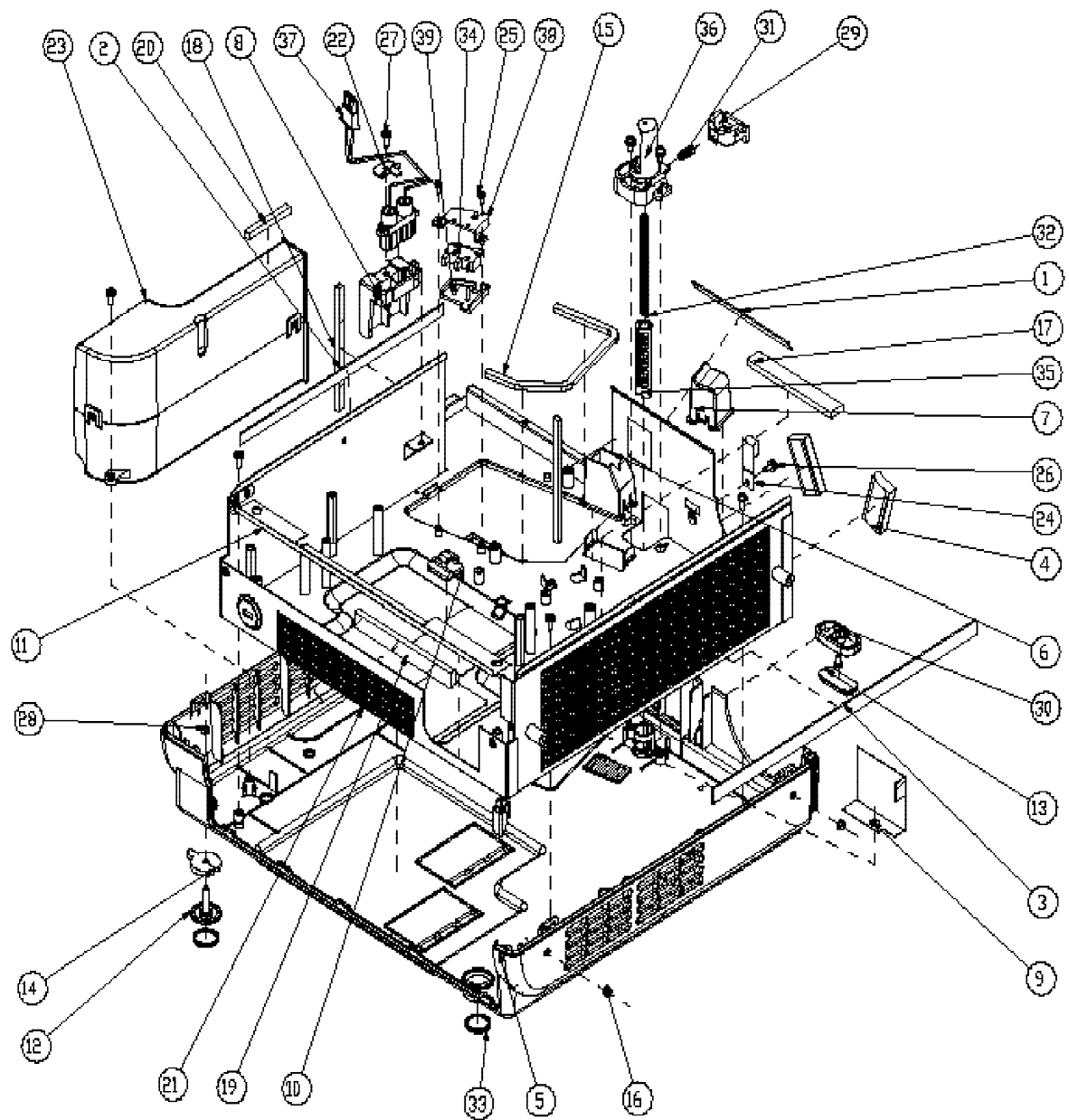
| CN | PART NO | REV | DESCRIPTION | QTY |
|----|--------------|-----|--|-----|
| 1 | 51-BQSD6G00L | A | FOCUS RING PGF4BS-G402A TOP-T90 'GREEN' | L |
| 2 | 61-82C02G00L | A | AIR GUIC FOR BLOWER W/CF AL-40M2 TOP-S80 | L |
| 3 | TABLE | X | PCBA DMD BOARD | X |
| 4 | 85-YNL21G035 | A | SCREW FLAT HEAD TAP M0.7x35 NI 'GREEN' | 3 |
| 5 | 85-1A526G060 | A | Screw Pan M2.6x6 Black | 4 |
| 6 | 85-1A52JG040 | A | Screw Pan M3x8 Ni Nyllok | 4 |
| 7 | 85-1A526G060 | A | Screw Pan M2.6x6 N Nyllok | 4 |
| 8 | 85-1A626G040 | A | Screw Pan M2.6x4 Black Nyllok | 7 |
| 9 | 85JFJ26G060 | A | SCREW PAN NECH W/SF M2.6x6 Ni 'GREEN' | L |
| 10 | 87-FLD3JG00B | A | WASHER FLAT 7x10x1.05 PG PINGOOW VS-JH | 2 |
| 11 | 49-B2G0NG00L | A | DMD W24x768 PIXEL DOR FGP 0.55" XGA | L |
| 12 | 11009FAG005 | B | CONN F 16P FOR 0.5" SVGA LG4 DMD SOCKET | L |
| 13 | 80-BB506G001 | A | PCBA PHOTO SENSOR BO TOP-T90 'GREEN' | L |
| 14 | 528J3D00QJ | A | RUBBER BLOWER 99925 'GREEN' | 4 |
| 15 | 61-BDND2G00L | A | BLOWER FAN DUCT AL-AD02E TOP-S80 | L |
| 16 | 61-B8606G001 | A | DND HEATSINK BAKER PLATE | L |
| 17 | 61-B8606G001 | A | DND SCREW Cvy10X 'GREEN' | 4 |
| 18 | 61-B8605G001 | A | DND HEATSINK A1070 Cvy10X 'GREEN' | L |
| 19 | 61-B8608G001 | A | DND HEATSINK SPRING PLATE SUS304 D46 Jwy | 2 |
| 20 | 528B510G001 | A | BLOWER DUCT FORON BF-L100 220MM | L |
| 21 | 2380Y9G001 | A | COLOR WHEEL 4 SEGMENT R85/387/W115/B83 | L |
| 22 | 61-B3628G001 | A | COLOR WHEEL SHOULDER SCREW | 3 |
| 23 | 528J615G001 | A | COLOR WHEEL DSG RUBBER | 3 |
| 24 | 61-BQJ08G00L | A | CV HOLDER 739 SEC0 J2t 'GREEN' | L |
| 25 | 52-BD10LG00L | B | DND ANTIKST RUBBER 799 SILICONE RUBBER | L |
| 26 | 51-BB031G00L | A | DND INSULATOR MYLAR DBE 3300MP | L |
| 27 | 61-B0J0JG001 | C | ENGINE BASE 739 Mg ALLOY 'GREEN' | L |
| 28 | 51-B0J0JG001 | B | ENGINE BOTTOM 739 BNC 'GREEN' | L |
| 29 | 5280J03G001 | A | LENS ANTIKUST 739 SILICONE RUBBER | L |
| 30 | 61-B0J09G00L | A | OFF LIGHT HEATSINK | L |
| 31 | 5280J02G001 | A | OFF LIGHT ISOLATOR | L |
| 32 | 23-B3J06G001 | A | GLASS RELAY LENS | L |
| 33 | 5280J04G001 | B | RELAY ANTIKUST 739 SILICONE RUBBER | L |
| 34 | 61-B0J0JG001 | A | RED COVER SVGA 739 SUS304 D21 'GREEN' | L |
| 35 | 61-B0J04G00L | B | ROD HOLDER 739 SUS304 D2t 'GREEN' | L |
| 36 | 61-B0J05G002 | B | ROD SPRING 739 SUS301 D25t 'GREEN' | L |
| 37 | 61-BQJ06G00L | B | SPRING MIRROR1 739 SUS301 D25t 'GREEN' | L |
| 38 | 61-BQJ07G00L | A | SPRING MIRROR2 739 SUS301 D25t 'GREEN' | L |
| 39 | 23-B2W0JG001 | A | NOTCH W/46 PROJECTION LENS ZOOM | L |
| 40 | 61-B0J02G00L | A | LVJR HOLDER 799 SUS301 D31 'GREEN' | L |
| 41 | 2380J02G001 | A | REFLECTION MIRROR1 OF DP739 SERIAL | L |
| 42 | 2380J02G001 | A | INTEGRATED ROD FOR 739 SVGA MODEL | L |
| 43 | 23-B0S1G00L | B | LVJR FILTER OF DP739 SERIES 'GREEN' | L |
| 44 | 23-B0FL7G002 | C | INTEGRATED ROD FOR 739 SVGA MODEL | L |
| 45 | 2380S20G001 | A | CONDENSER L2 OF DP799 SERIES 'GREEN' | L |
| 46 | 2380S20G001 | A | CONDENSER L3 OF DP739 SERIES 'GREEN' | L |
| 47 | 85-5A126G040 | A | SCREW BINDING NECH M2.6x4 Ni 'GREEN' | L |
| 48 | 61-B2C05G001 | A | EMO AL FOIL FOR FOCUS RING DORF TOP-S80 | L |
| 49 | 51-B0V33G001 | B | ENGINE BOTTOM MIRROR TAPE 3M-D50 220MP | L |
| 50 | 51-B0S43G001 | A | ENGINE MIRROR 2 MYLAR TOP-T90 | L |

Note: Please refer to RSPL for updated Part Number.



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|---|------|
| 1 | 61-80S12G001 | A | LAMP MESH SECC 0.5t HEX BLACK | 1 |
| 2 | 61-80S13G011 | A | COVER GLASS HOLDER TOP-SBO | 1 |
| 3 | 61-B2C06G001 | A | Identity BKT-2 for Lamp SECC 0.8T "GREEN" | 1 |
| 4 | 85-1A626-050 | A | Screw Pan M2.6x5 Black Nylon | 2 |
| 5 | 61.8DW16G001 | A | LAMP INSULATOR AL 2300MPX "GREEN" | 1 |
| 6 | 85-1F323-060 | A | Screw Pan Spg+Flt M3x6 Black | 9 |
| 7 | 76.80W04G002 | A | OUTSIDE WA. 70mm FOR LAMP 2300MP "GREEN" | 1 |
| 8 | 23.80S10G011 | A | LAMP COVER GLESS OF 0P739 SERIES | 1 |
| 9 | 61.8B505G001 | A | LAMP BRACKET 1 SUS301 0.3t 2200MP "GREEN" | 1 |
| 10 | 61.8B506G001 | A | LAMP BRACKET 2 SUS301 0.3t 2200MP "GREEN" | 2 |
| 11 | 61-00018-002 | A | LOCK SCREW | 2 |
| 12 | 61-82C01G001 | A | LAMP HOLDER(PHILIPS) | 1 |
| 13 | 52.80W17G001 | A | INSULATOR RUBBER FOR LAMP BASE 2300MP "Green" | 1 |
| 14 | 52.80W12G001 | A | LAMP INSULATOR SILICONE RUBBER 2300MP "Green" | 1 |
| 15 | 23.82G15G001 | A | PHILIPS 200/150W 1.0 E19V INDEX 272 | 1 |
| 16 | 51.80J02G001 | C | LAMP BOTTOM 739 PPS "GREEN" | 1 |
| 17 | 61.87L25G001 | A | LAMP HADNLER SUS304 "GREEN" | 1 |

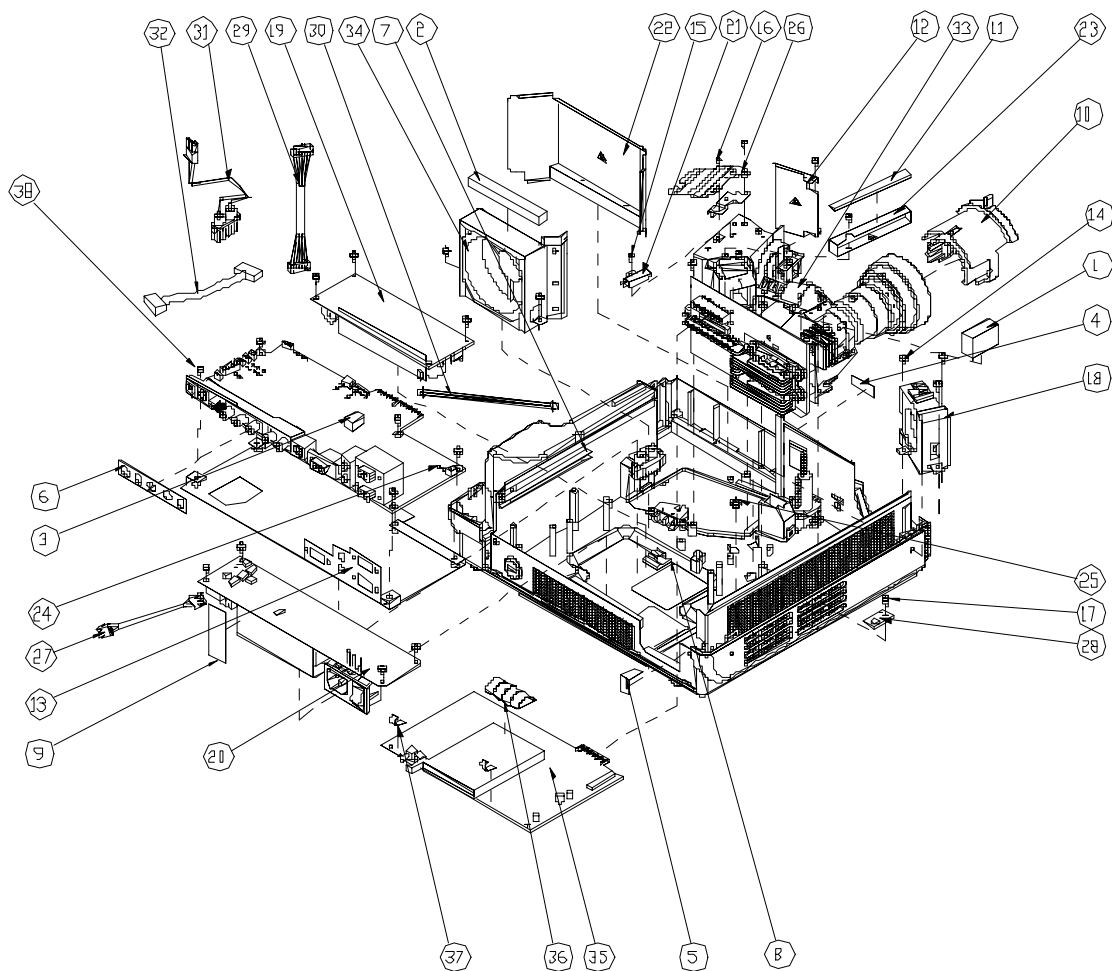
Note: Please refer to RSPL for updated Part Number.



Note: Please refer to RSPL for updated Part Number.

| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|---|------|
| 1 | 41-B0S11G001 | A | EMI TAPE 15*80 mm 'GREEN' | 1 |
| 2 | 41-B0S12G001 | A | EMI TAPE 15*170mm 'GREEN' | 1 |
| 3 | 41-B0S13G001 | B | EMI TAPE 10*220mm 'GREEN' | 1 |
| 4 | 41-82C03G001 | A | EMI GASKET W15*H6*L32 'GREEN' | 2 |
| 5 | 51-B0S02G001 | B | BOTTOM COVER | 1 |
| 6 | 51-B0S18G001 | A | ROD DUCT | 1 |
| 7 | 51-B0S19G001 | A | LENS DUCT | 1 |
| 8 | 51-B0S27G001 | A | LAMP CONNECTOR CHASSIS | 1 |
| 9 | 51-B0S32G001 | A | LVPS INSULATOR | 1 |
| 10 | 51-B0S36G001 | A | WIRE SADDLE WCL-4 | 1 |
| 11 | 51-B0S37G001 | A | HEAT SINK INSULATOR | 1 |
| 12 | 51-B0S21G001 | A | ADJUST FOOT PC+ABS-CA01A TDP-T90 | 1 |
| 13 | 52-B0S03G001 | B | ELEVATOR RUBBER | 1 |
| 14 | 52-B0S04G001 | A | ADJUST FOOT SPACER | 1 |
| 15 | 52-B0S07G001 | A | ENGINE PAD | 1 |
| 16 | 52-B0S08G001 | A | RUBBER PAD | 2 |
| 17 | 52-B0S10G001 | A | DMD/BD FORM | 1 |
| 18 | 52-B0S11G001 | A | BRKT-AIR FLOW FORM | 2 |
| 19 | 52-B0S16G001 | D1 | SPACER PAD | 1 |
| 20 | 52-B0S18G001 | A | TOP COVER CONTACT FORM 'GREEN' | 1 |
| 21 | 61-B0S01G002 | A | BOTTOM BRKT | 1 |
| 22 | 61-B0S20G001 | A | SUPPORT FOR LAMP CNVT SECC t1.0 TDP-T90 | 1 |
| 23 | 75-B0S07G001 | A | ASSY AIR FLOW TDP-T90 'GREEN' | 1 |
| 24 | 80-B0S05G001 | A | PCBA IR SENSOR BD TDP-T90 'GREEN' | 1 |
| 25 | 85-1A626G050 | A | Screw Pan M2.6x5 Black Nylok | 3 |
| 26 | 85-1F323G060 | A | Screw Pan Spg+Flt M3x6 Black | 1 |
| 27 | 85-UA123G070 | A | Screw Pan Tap M3x7 | 7 |
| 28 | 86.00122G015 | A | NUT HEX M2.0*0.4P L15 NI 'GREEN' | 1 |
| 29 | 51-B0S16G001 | B | ELEVATOR PUSH BUTTON | 1 |
| 30 | 51-B0S17G001 | A | ELEVATOR FOOT | 1 |
| 31 | 61-B0S15G001 | B | ELEVATOR SPRING D4 | 1 |
| 32 | 61-B0S18G001 | A | SPRING O.D.Ø4.5 W.D.Ø0.4 L65mm | 1 |
| 33 | 52.86801G001 | A | RUBBER FOOT REAR DP725 'GREEN' | 2 |
| 34 | 75.80J02G001 | A | ASSY INTERRUPTER SWITCH 'GREEN' | 1 |
| 35 | 51.87217G011 | A | ELEVATOR GEAR BAR D=9.4mm NORYL | 1 |
| 36 | 51.87216G001 | A | ELEVATOR BASE HOLDER NORYL | 1 |
| 37 | 76.82C01G001 | A | OUTSIDE W.A. 150mm FOR PHILIPS | 1 |
| 38 | 51.80J03G001 | A | INTERRUPT SW HOLDER 739 PPS 'GREEN' | 1 |
| 39 | 51.80J04G001 | A | INTERRUPT SW BOTTOM 739 PPS 'GREEN' | 1 |

Note: Please refer to RSPL for updated Part Number.



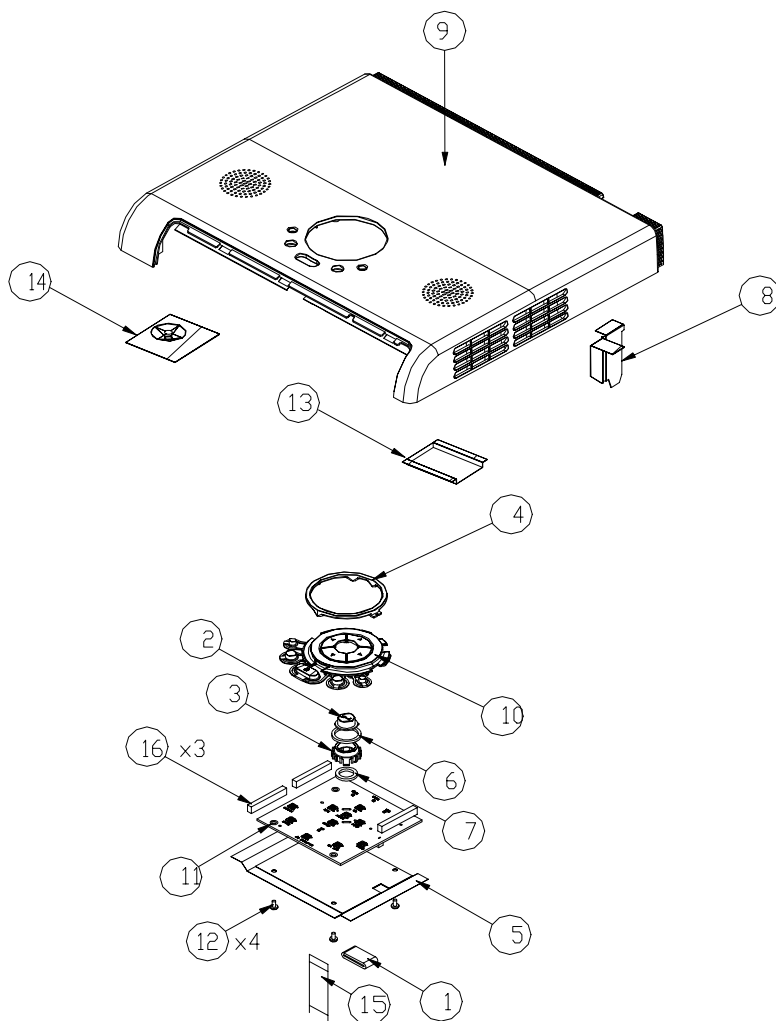
Note: Please refer to RSPL for updated Part Number.

| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|--|------|
| 1 | 41-80S02G001 | A | EMI GASKET 13*21*30 mm "GREEN" | 1 |
| 2 | 41-80S03G001 | A | EMI GASKET 10*8*80 mm "GREEN" | 1 |
| 3 | 41-80S07G001 | A | EMI GASKET W10*HB.5*L15mm "GREEN" | 1 |
| 4 | 41-80S08G001 | A | EMI TAPE 10*25mm | 1 |
| 5 | 41-81H04G001 | A | EMI AL TAPE W10*L30mm FOR LVPS "GREEN" | 1 |
| 6 | 41-82C02G001 | A | EMI GASKET W13*H1*L76 "GREEN" | 1 |
| 7 | TABLE | A | CARD GUIDE CG-400 TDP-T90 "GREEN" | 1 |
| 8 | 51-80S36G001 | A | WIRE SADDLE WCL-4 | 1 |
| 9 | 51-80S4DG001 | A | SUNSHAD FOR LVPS FR-PP 0125t TDP-T90 "GREEN" | 1 |
| 10 | 51-81H04G001 | B | ZOOM RING PC+ABS-CA02A TDP-MT200 "GREEN" | 1 |
| 11 | 52-80S06G001 | A | AIRTIGHT SPONGE | 1 |
| 12 | 61-80S14G002 | A | HEAT INSULATOR PLATE | 1 |
| 13 | TABLE | A | EMI INSULATOR AL+MYLAR | 1 |
| 14 | 61-87340G001 | A | Stand off M3*4L D80 2100MP | 3 |
| 15 | 85-1A126G030 | A | Screw Pan M2.6x3 Ni | 1 |
| 16 | 85-5A126G040 | A | SCREW BINDING MECH M2.6*4 Ni "GREEN" | 3 |
| 17 | 85-1F323G060 | A | Screw Pan Spg+Fit M3x6 Black | 5 |
| 18 | 70-82C1DG001 | A | ASSY BLOWER MODULE TDP-S80 "GREEN" | 1 |
| 19 | 75-82G09G001 | C | ASSY PHILIPS LAMP DRIVER 200W | 1 |
| 20 | 75-80S01.001 | F | ASSY LVPS QUASAR D4 200W | 1 |
| 21 | 43-81HD2G001 | A | KLIXON YS1L THERMAL SWITCH WIRE LENGTH 25 | 1 |
| 22 | 61-80S05G001 | A | DEFLECTOR TINPLATE 0.2t TDP-T90 "GREEN" | 1 |
| 23 | 61-80S07G001 | A | AIR TIGHT TINPLATE 0.2t TDP-T90 "GREEN" | 1 |
| 24 | TABLE | X | PCBA MAIN BOARD | 1 |
| 25 | 85-1C224-050 | A | SCREW PAN MECH M4*5 COLOR W/TOOTH WASHER | 1 |
| 26 | 61-80J28G011 | A | LIGHT CUT TOP AL5D2D TDP-S80 "GREEN" | 1 |
| 27 | 42-80S05G001 | A | W.A. 2P #20 LAMP DRIVER TO LVPS 220mm | 1 |
| 28 | 80-80SD4G001 | C | PCBA THERMAL SENSOR BD TDP-T90 "GREEN" | 1 |
| 29 | 42-80S07G001 | B | W.A. 14P 190mm LVPS TO M/B TDP-T90 | 1 |
| 30 | 42-82C01G001 | B | W.A. 5P UL1571 #28 200mm LVPS TO MB | 1 |
| 31 | 76-82G01G001 | A | BUY ASSY W.A. 2P 150mm LVPS/LAMP EP719 | 1 |
| 32 | TABLE | A | W.A. 40PIN #28 UL1571 L=120mm 2ROWS TDP-T90 | 1 |
| 33 | TABLE | A | ASSY ENGINE MODULE | 1 |
| 34 | 70-82C11G001 | A | ASSY 70*20 FAN MODULE TDP-S80 | 1 |
| 35 | TABLE | A | WIRELESS PC BOARD TDP-TW90 "GREEN" | 1 |
| 36 | TABLE | A | EMI SPRING BeCu t=0.1mm TDP-TW90 | 1 |
| 37 | TABLE | A | EMI MAIN BOARD SPRING 2300MP | 2 |
| 38 | 85.1F123G060 | A | SCREW PAN MECH W/SF M3*6 Ni | 16 |

Note: Please refer to RSPL for updated Part Number.

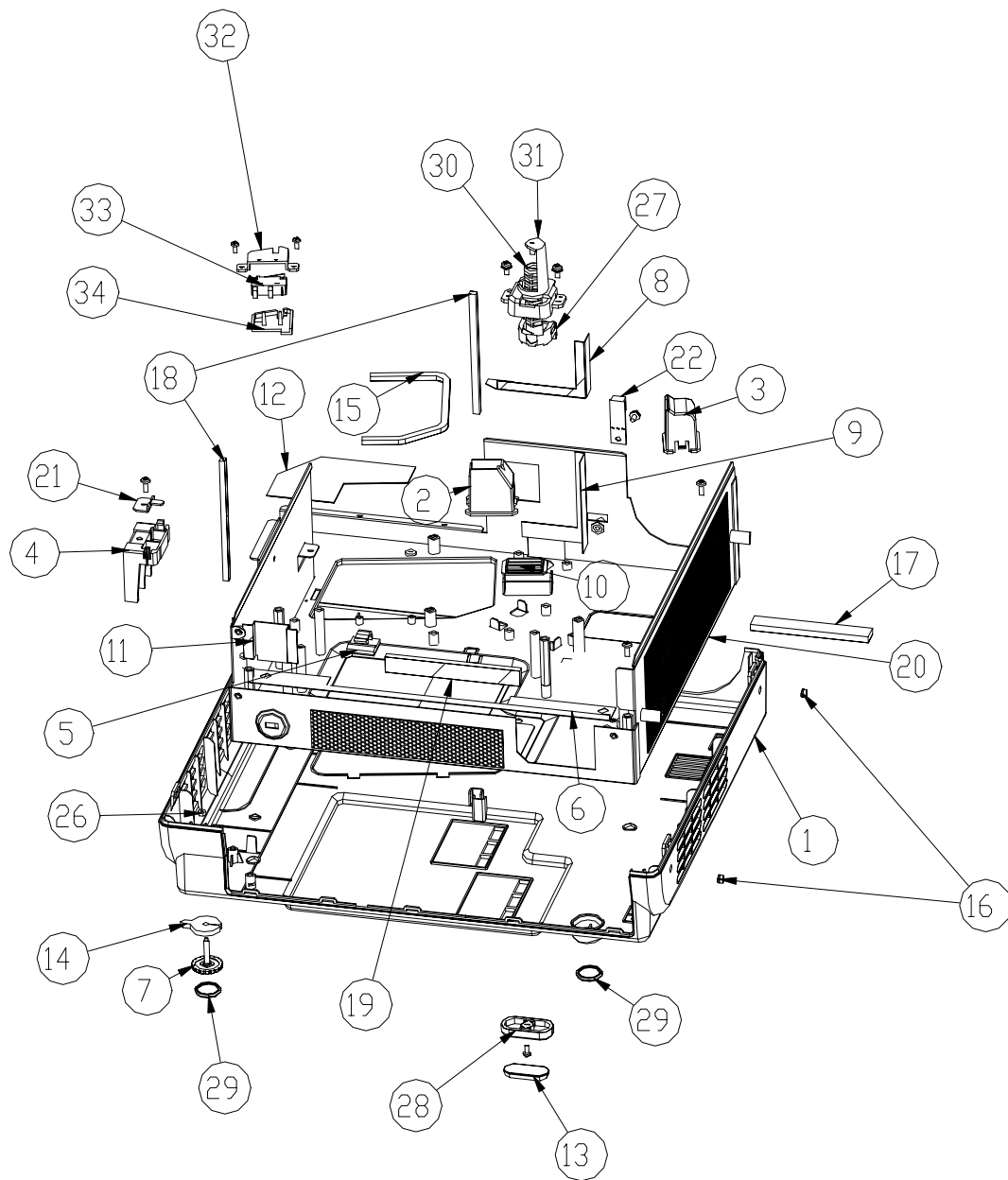
III. Exploded Overview for MT Series

Exploded Overview for MT200



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|-----------------------------------|------|
| 1 | 41.83101G001 | A | KEYPAD FPC CORE 24.5*5*12 "GREEN" | 1 |
| 2 | 51.80S07G001 | A | ENTER KEY | 1 |
| 3 | 51.80S08G001 | A | FIX HOLDER | 1 |
| 4 | 51.80S14G001 | A | LED LENS RING | 1 |
| 5 | 51.80S35G001 | A | KEYPAD INSULATOR AL+MYLAR | 1 |
| 6 | 52.80S01G001 | A | KEY PAD SPRING | 1 |
| 7 | 52.80S02G001 | A | ENTER KEY SPRING | 1 |
| 8 | 51.81H09G001 | A | SUNSHADE ZOOM RING | 1 |
| 9 | 75.81H05G001 | A | ASSY TOP COVER & SHIELDING | 1 |
| 10 | 75.81H04G001 | A | ASSY BUTTON | 1 |
| 11 | 80.80S03G001 | A | PCBA KEYPAD BOARD | 1 |
| 12 | 85.TA123G060 | A | Screw Cap Tap M3x6 Ni | 4 |
| 13 | 51.81H08G001 | A | SUNSHADE SPEAKER | 1 |
| 14 | 51.81H15G001 | A | SUNSHADE LAMP-TOP | 1 |
| 15 | 42.80S02G001 | A | FFC CABLE 24P 100mm | 1 |
| 16 | 41.80S04G001 | A | EMI GASKET 5*5*20 mm | 3 |

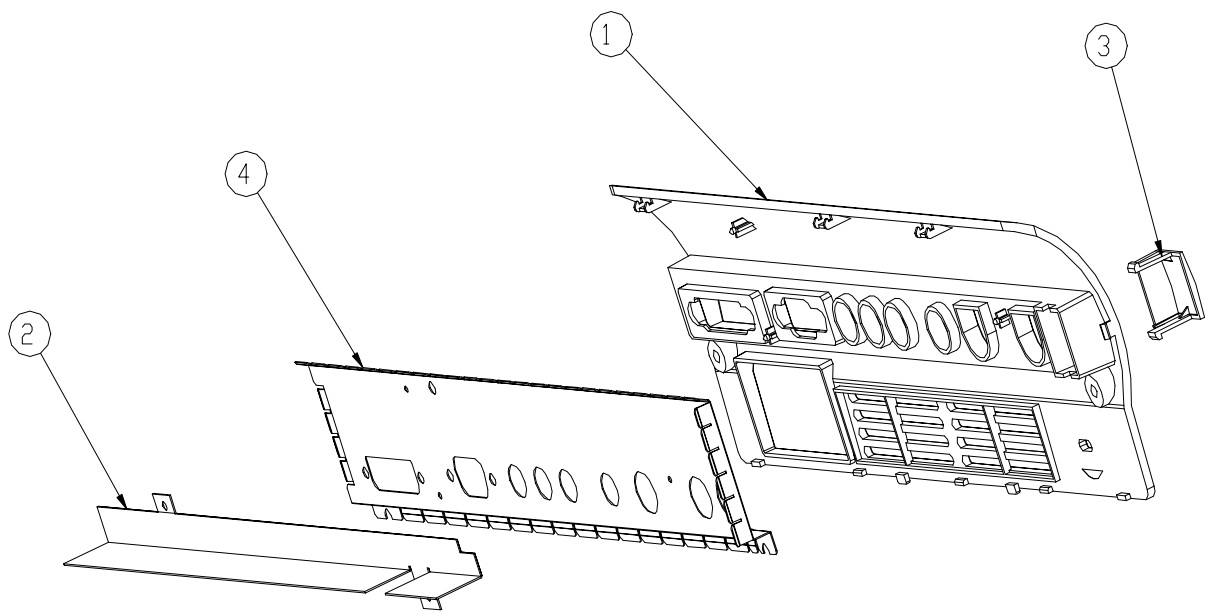
Note: Please refer to RSPL for updated Part Number.



Note: Please refer to RSPL for updated Part Number.

| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|------------------------------|------|
| 1 | 51.80S02G002 | A | BOTTOM COVER | 1 |
| 2 | 51.80S18G001 | A | ROD DUCT | 1 |
| 3 | 51.80S19G001 | A | LENS DUCT | 1 |
| 4 | 51.80S27G002 | A | LAMP CONNECTOR CHASSIS | 1 |
| 5 | 51.80S36G001 | A | WIRE SADDLE WCL-4 | 1 |
| 6 | 51.80S37G001 | A | HEAT SINK INSULATOR | 1 |
| 7 | 51.80S21G002 | A | ADJUST FOOT | 1 |
| 8 | 51.81H06G001 | A | SUNSHADE C.W | 1 |
| 9 | 51.81H07G001 | A | SUNSHADE ELEVATOR | 1 |
| 10 | 51.81H12G001 | A | SUNSHADE ROD | 1 |
| 11 | 51.81H13G001 | A | SUNSHADE LOCK-HOLE | 1 |
| 12 | 51.81H14G001 | A | SUNSHADE LAMP-DOWN | 1 |
| 13 | 52.80S03G002 | B | ELEVATOR RUBBER | 1 |
| 14 | 52.80S04G001 | A | ADJUST FOOT SPACER | 1 |
| 15 | 52.80S07G001 | A | ENGINE PAD | 1 |
| 16 | 52.81H01G001 | A | RUBBER PAD | 2 |
| 17 | 52.80S10G001 | A | DMD/BD FORM | 1 |
| 18 | 52.80S11G001 | A | BRKT-AIR FLOW FORM | 2 |
| 19 | 52.80S16G001 | D1 | SPACER PAD | 1 |
| 20 | 61.80S01G002 | A | BOTTOM BRKT | 1 |
| 21 | 61.80S20G001 | A | SUPPORT FOR LAMP CNNT | 1 |
| 22 | 80.80S05G001 | 0 | PCBA FRONT IR | 1 |
| 23 | 85.1A626G050 | A | Screw Pan M2.6x5 Black Nylok | 3 |
| 24 | 85.1F323G060 | A | Screw Pan Spg+Flt M3x6 Black | 3 |
| 25 | 85.UA123G070 | A | Screw Pan Tap M3x7 NI | 4 |
| 26 | 86.01022G015 | 0 | Nut Hex M2x2L copper | 1 |
| 27 | 51.80S16G002 | A | ELEVATOR PUSH BUTTON | 1 |
| 28 | 51.80S17G002 | A | ELEVATOR FOOT | 1 |
| 29 | 52.86801G001 | 0 | RUBBER FOOT REAR | 2 |
| 30 | 51.87217G011 | 1 | ELEVATOR GEAR BAR | 1 |
| 31 | 51.87216G001 | 0 | ELEVATOR BASE HOLDER | 1 |
| 32 | 51.80J03G001 | 0 | INTERRUPT SW HOLDER | 1 |
| 33 | 75.80J02G001 | 1 | ASSY INTERRUPTER SWITCH | 1 |
| 34 | 51.80J04G001 | 0 | INTERRUPT SW BOTTOM | 1 |
| 35 | 75.80J02G001 | 0 | RUBBER FOOT REAR | 1 |

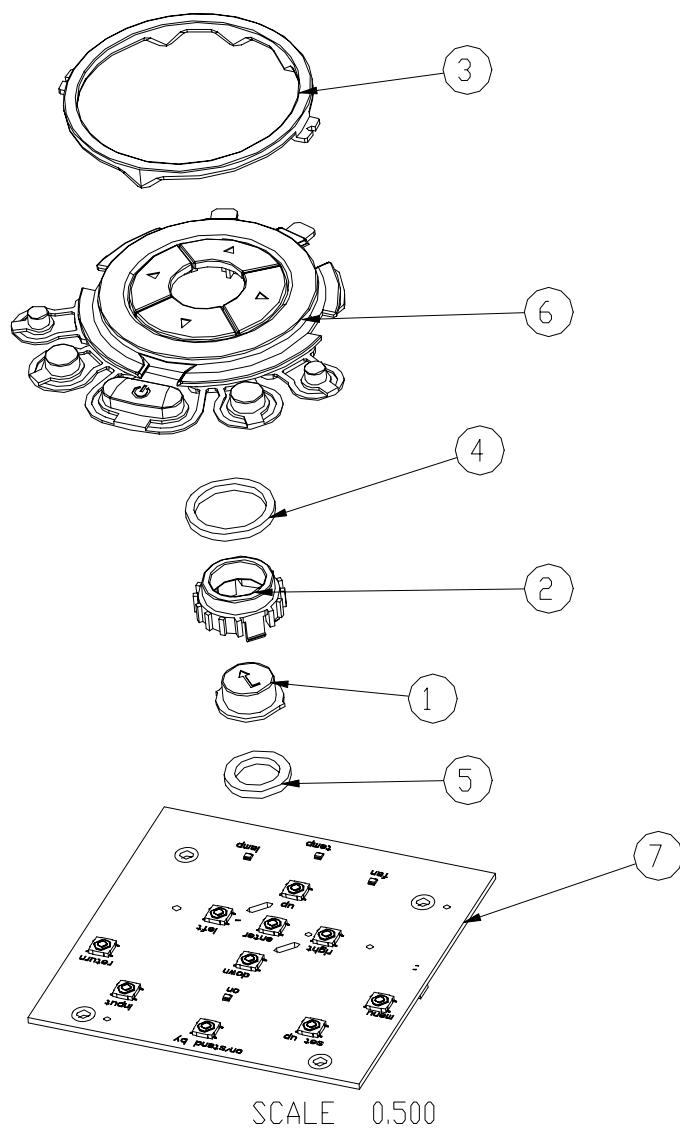
Note: Please refer to RSPL for updated Part Number.



SCALE 0.500

| ITEM | PART NO. | REV. | DESCRIPTION | Q'TY |
|------|--------------|------|----------------------|------|
| 1 | 51.81H03G001 | A | REAR COVER | 1 |
| 2 | 51.81H10G001 | A | SUNSHADE CONN-TOP | 1 |
| 3 | 51.80S29G001 | A | IR LENS REAR | 1 |
| 4 | 61.81H01G001 | A | REAR SHIELDING COVER | 1 |

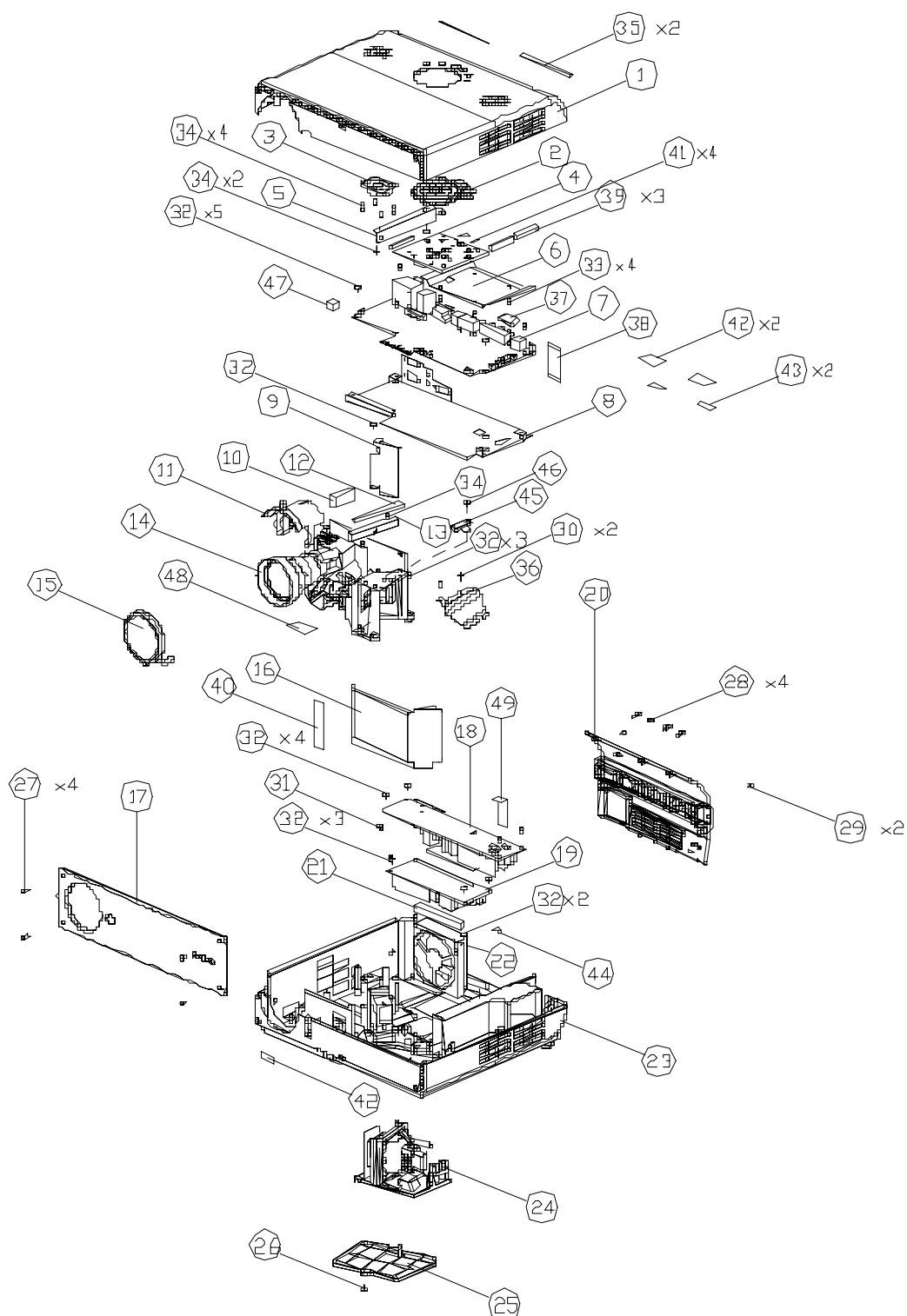
Note: Please refer to RSPL for updated Part Number.



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|-------------------|------|
| 1 | 51.80S07G001 | A | ENTER KEY | 1 |
| 2 | 51.80S08G001 | A | FIX HOLDER | 1 |
| 3 | 51.80S14G001 | A | LED LENS RING | 1 |
| 4 | 52.80S01G001 | A | KEY PAD SPRING | 1 |
| 5 | 52.80S02G001 | A | ENTER KEY SPRING | 1 |
| 6 | 75.81H04G001 | A | ASSY BUTTON | 1 |
| 7 | 80.80S03G001 | A | PCBA KEYPAD BOARD | 1 |

Note: Please refer to RSPL for updated Part Number.

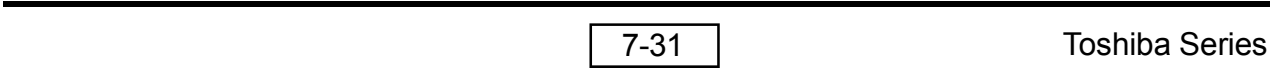
Exploded Overview for MT400



| ITEM | PART NO. | REV | DESCRIPTION |
|------|--------------|-----|--|
| 1 | 75.83G01G001 | A | ASSY TOP COVER TDP-MT400 |
| 2 | 70.81H11G001 | A | ASSY SELECT BUTTON MODULE |
| 3 | 52.81H02G001 | A | SUNSHADE SPEAKER CR FOAM 5mm |
| 4 | 70.81H04G001 | A | ASSY KEY PAD MODULE TDP-MT400 |
| 5 | 61.8DS06G001 | A | CARD GUIDE BRKT SECC 1.0t |
| 6 | 51.80S35G001 | A | KEYPAD INSULATOR AL+MYLAR TDP-T |
| 7 | 80.83G01G001 | A | PCBA MAIN BOARD MT400 |
| 8 | 61.81H10G001 | A | EMI INSULATOR AL+MYLAR TDP-MT200 |
| 9 | 61.8DS14G002 | A | HEAT INSULATOR PLATE TINPLATE |
| 10 | 41.81H02G001 | A | EMI GASKET W13*H21*L45 mm |
| 11 | 51.83G01G001 | A | ZOOM RING PC+ABS-CAD2A |
| 12 | 52.80S06G001 | A | AIRTIGHT SPONGE F12 8*78*1.6t |
| 13 | 61.8DS07G001 | A | AIR TIGHT TINPLATE 0.2t |
| 14 | 70.83G02G001 | A | ASSY ENGINE MODULE TDP-MT400 |
| 15 | 75.80S04G001 | A | LENS CAP MODULE |
| 16 | 61.8DS05G001 | A | DEFLECTOR TINPLATE 0.2t |
| 17 | 75.8DS03G001 | A | ASSY FRONT COVER |
| 18 | 70.81H15G001 | A | ASSY LVPS MODULE TDP-MT200 |
| 19 | 70.81H09G001 | A | ASSY LAMP DRIVER MODULE |
| 20 | 75.81H06G001 | A | ASSY REAR COVER TDP-MT200 |
| 21 | 41.80S03G001 | A | EMI GASKET 10*8*80 mm |
| 22 | 70.81H16G001 | A | ASSY FAN MODULE TOP-MT200 |
| 23 | 70.81H02G001 | A | ASSY BOTTOM COVER TDP-MT200 |
| 24 | 70.81H06G001 | A | ASSY LAMP MODULE |
| 25 | 51.8DS22G002 | A | LAMP COVER PC+ABS-TS01A |
| 26 | 61.86111G001 | A | TRIPOD BASE SCREW 8.6L STEEL |
| 27 | 85.10026G080 | A | SCREW PAN INNER HEX MECH M2.6*8 |
| 28 | 85.0H1AGG075 | A | SCREW HEX-W/S L/D #4-40*H5*L7.5 |
| 29 | 85.0A323G060 | A | SCREW P/F MECH M3*6 BLACK |
| 30 | 85.5A126G040 | A | SCREW BINDING MECH M2.6*4 Ni |
| 31 | 85.1C224G050 | A | SCREW PAN MECH M4*5 COLOR W/TOOTH WASHER |
| 32 | 85.1F323G060 | A | SCREW PAN MECH W/SF M3*6 BLACK |
| 33 | 85.0A123G050 | A | SCREW CAP TAP M3*6 Ni |
| 34 | 85.0A123G070 | A | SCREW PAN TAP M3*7 Ni |
| 35 | 41.80S15G001 | A | EMI GASKET W4*H1*L105 mm |
| 36 | 61.8DJ28G001 | A | LIGHT CUT TOP VULCAN-1 |
| 37 | 41.83101G001 | A | KEYPAD FPC CORE 24.5*5*12 |
| 38 | 42.80S02G001 | A | FFC CABLE 24P 100 mm |
| 39 | 41.80S04G001 | A | EMI GASKET 5*5*20 mm |
| 40 | 41.80S11G001 | A | EMI TAPE 15*80mm |
| 41 | 51.80S39G001 | A | TAPE 3M 1350F 10*15mm |
| 42 | 41.80S08G001 | A | EMI TAPE 20*30mm |
| 43 | 41.80S09G001 | A | EMI TAPE 10*25mm |
| 44 | 41.81H04G001 | A | EMI AL TAPE W10*L30mm |
| 45 | 43.81H02G001 | A | KLIXON YS11 THERMAL SWITCH |
| 46 | 85.1A126G030 | A | SCREW PAN MECH M2.6*3 Ni |
| 47 | 41.80S07G001 | A | EMI GASKET W10*H8.5*L15mm |
| 48 | 51.81542G001 | A | TAPE 3M J350 17*15mm |
| 49 | 51.80S40G001 | A | SUNSHADE FOR LVPS FR-PP 0125t |

Note: Please refer to RSPL for updated Part Number.

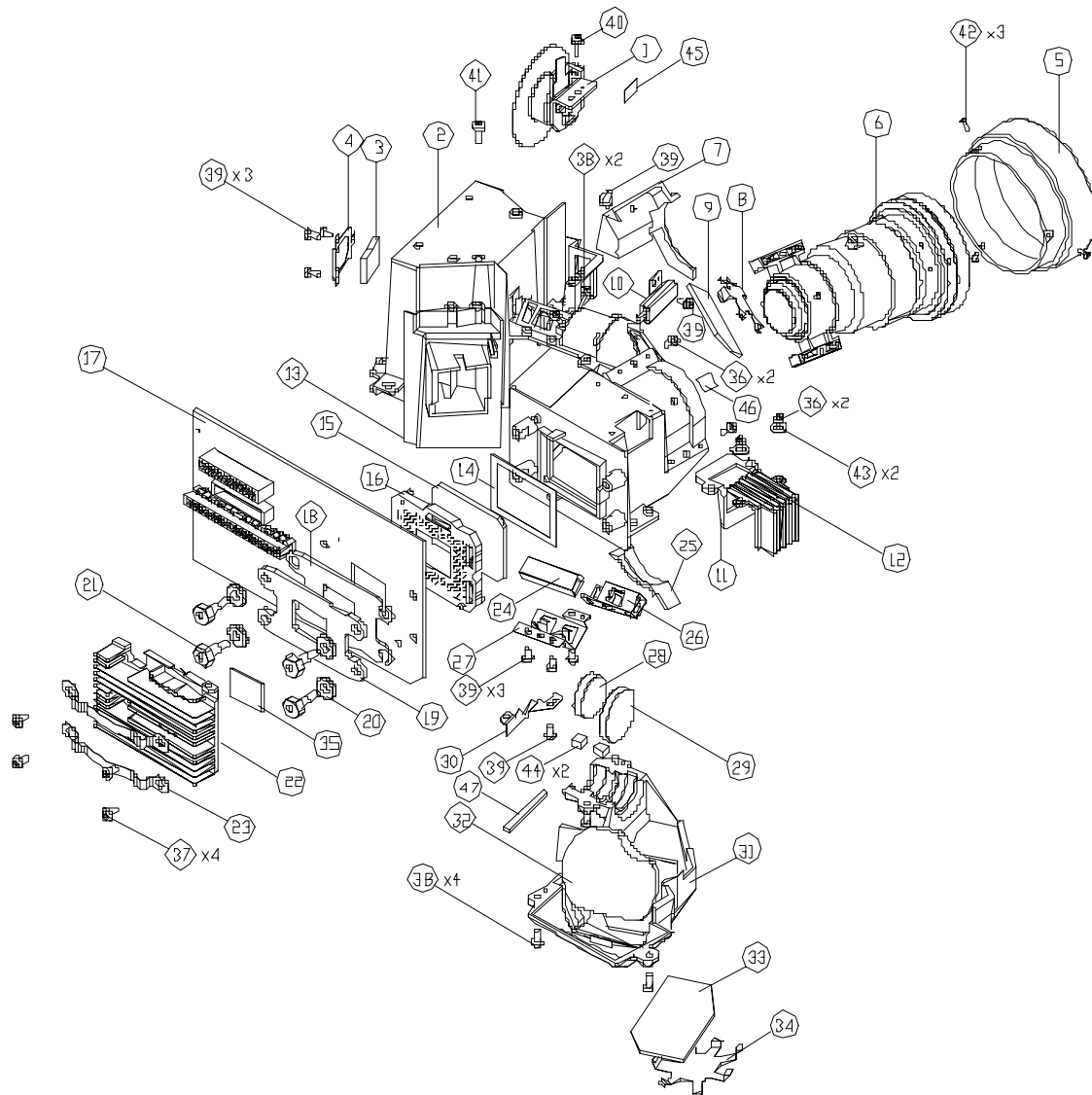
7-31
Toshiba Series



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|------------------------------------|------|
| 1 | 41.80S03G001 | A | EMI GASKET VGT-10*7*80mm | 1 |
| 2 | 41.81H01G001 | A | EMI GASKET 13*21*45mm | 1 |
| 3 | 51.83G01G001 | A | ZOOM RING | 1 |
| 4 | 52.80S06G001 | A | AIRTIGHT SPONGE | 1 |
| 5 | 61.80J28G001 | A | light cut | 1 |
| 6 | 61.80S14G001 | A | HEAT INSULATOR PLATE | 1 |
| 7 | 61.87340G001 | A | Stand off M3*4L D8.0 2100MP | 3 |
| 8 | 75.80S07G001 | A | ASSY AIR FLOW | 1 |
| 9 | 85.1A126.030 | A | Screw Pan M2.6x4 Black Nylok | 2 |
| 10 | 85.1F123.060 | A | Screw Pan Spg+Flt M3x6 Ni | 19 |
| 11 | 85.UA323.070 | A | Screw Pan Tap M3x7 Black | 1 |
| 12 | 70.81H09G001 | A | ASSY LAMP DRIVE MODULE | 1 |
| 13 | 70.81H15G001 | A | ASSY LVPS MODULE | 1 |
| 14 | 80.80S04G001 | A | PCBA THERMAL-SENSOR | 1 |
| 15 | 51.80S23G001 | A | PCBA INSULATOR | 1 |
| 16 | 61.80S05G001 | A | DEFLECTOR | 1 |
| 17 | 61.80S07G001 | A | AIR TIGHT | 1 |
| 18 | 80.83G01G001 | A | PCBA MAIN BOARD MT400 | 1 |
| 19 | 85.1C224G050 | A | PCBA MAIN BOARD | 1 |
| 20 | 70.83G02G001 | A | ENGINE_MODULE_MT400 | 1 |
| 21 | 70.81H12G001 | A | ASSY BOTTOM COVER MODULE | 1 |
| 22 | 70.80S13G001 | A | ASSY FAN MODULE | 1 |
| 23 | 70.80S12G001 | A | ASSY BLOWER MODULE | 1 |
| 24 | 85.3A126.040 | A | SCREW CAP HEAT D7.0 MECH M2.6*4 Ni | 1 |

Note: Please refer to RSPL for updated Part Number.

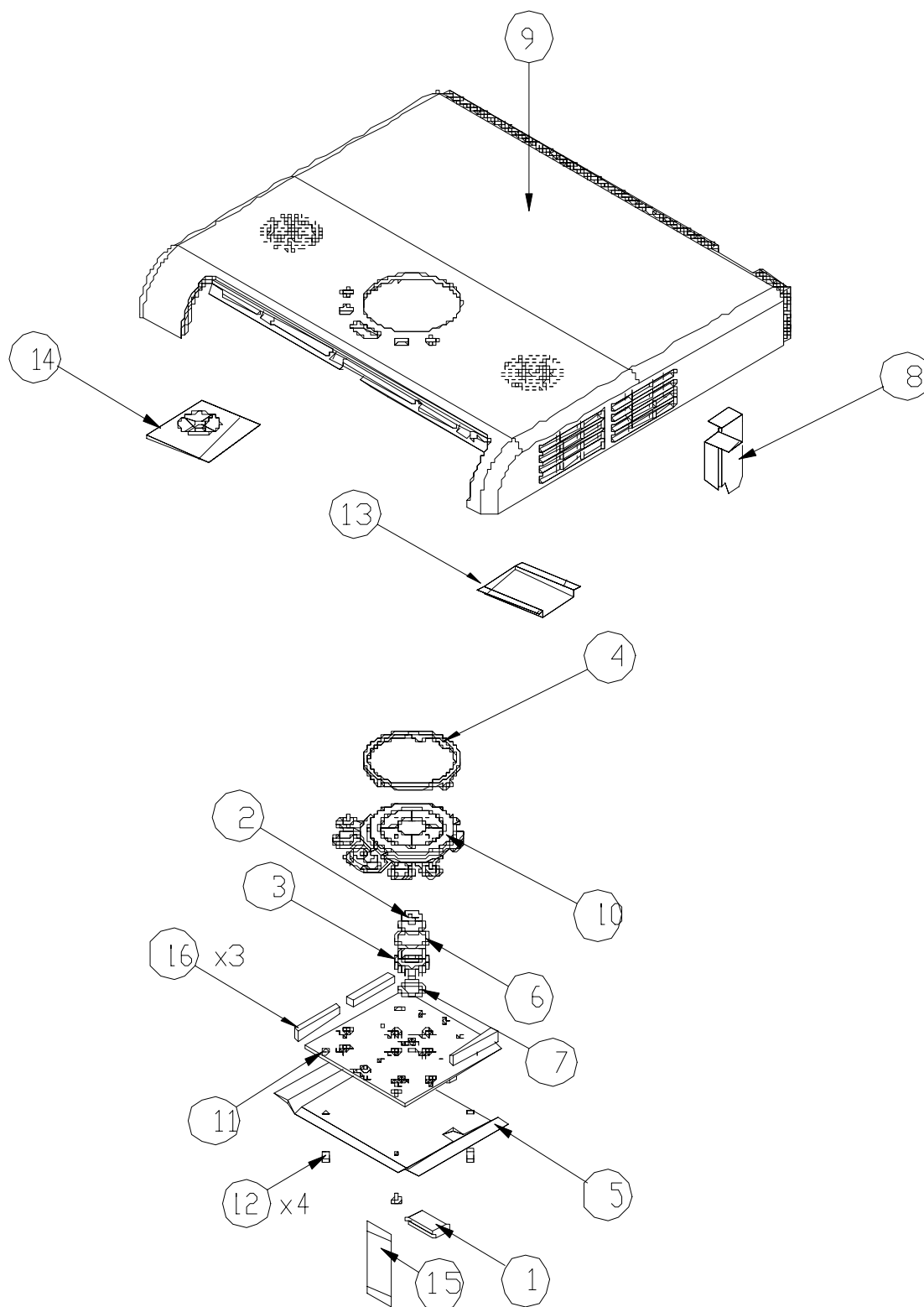
Bottom Cover Module (70.83G02G001) for MT series



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|--|------|
| 1 | 70.81H14G001 | A | ASSY COLOR WHEEL TDP-MT200 | 1 |
| 2 | 61.80J01G001 | A | ENGINE BASE 739 Mg ALLOY | 1 |
| 3 | 23.80S10G001 | A | UV/IR FILTER OF DP739 SERIES | 1 |
| 4 | 61.80J02G001 | A | UVIR HOLDER 739 SUS301 0.3t | 1 |
| 5 | 51.83G02G001 | A | FOCUS RING PC+ABS-CAD2A TDP-MT400 | 1 |
| 6 | 23.83F01G001 | A | YMO PROJECTION ZOOM LENS FOR DP739 SERIES | 1 |
| 7 | 52.80J03G001 | A | LENS ANTIDUST 739 SILICONE RUBBER | 1 |
| 8 | 61.80J07G001 | A | SPRING MIRROR2 739 SUS301 0.25t | 1 |
| 9 | 23.80J02G011 | A | REFLECTION MIRROR2 OF DP739 SERIAL | 1 |
| 10 | 43.81H02G001 | A | KLIXON YS11 THERMAL SWITCH,WIRE LENGTH±250 | 1 |
| 11 | 52.80J02G001 | A | OFF LIGHT ISOLATOR 739 SILICONE RUBBER | 1 |
| 12 | 61.80J39.001 | A | OFF LIGHT PLATE AL VULCAN-I | 1 |
| 13 | 61.81H05G001 | A | BLOWER FAN DUCT AL | 1 |
| 14 | 52.80J01G001 | B | DMD ANTIDUST RUBBER | 1 |
| 15 | 48.81DDMGD02 | A | DMD 1024*576 PIXEL 0.6" 576P DDR "GREEN" | 1 |
| 16 | 11.009F0G005 | A | CNNT F 166P FOR 0.55" SVGA LGA DMD SOCKET | 1 |
| 17 | 80.80S02G002 | C | PCBA DMD BOARD | 1 |
| 18 | 51.80B31G001 | A | DMD INSULATOR MYLAR 0.8t | 1 |
| 19 | 61.88606G001 | A | DMD HEATSINK BAKER PLATE | 1 |
| 20 | 52.87130G001 | A | RUBBER BLOWER | 4 |
| 21 | 61.88611G001 | A | DMD SCREW | 4 |
| 22 | 61.88605G001 | A | DMD HEATSINK A1070 | 1 |
| 23 | 61.88608G001 | A | DMD HEATSINK SPRING PLATE SUS301 0.4t | 2 |
| 24 | 23.83G17G001 | A | INTEGRATING ROD FOR MT400 | 1 |
| 25 | 52.80J04G002 | B | RELAY ANTIDUST 739 WT4L YMO6 SILICONE RUBBER | 1 |
| 26 | 61.80J04G001 | A | ROD HOLDER 739 SUS301 0.2t | 1 |
| 27 | 61.80J05G002 | A | ROD SPRING 739 SUS301 0.25t | 1 |
| 28 | 23.80S20G011 | A | CONDENSER L3 | 1 |
| 29 | 23.80S20G001 | A | CONDENSER L2 | 1 |
| 30 | 61.81H06G001 | A | ROD COVER 480P 739 SUS301 0.5t | 1 |
| 31 | 51.80J01G001 | A | ENGINE BOTTOM 739 BMC | 1 |
| 32 | 23.80J06G001 | A | RELAY LENS 1 | 1 |
| 33 | 23.80J02G001 | A | REFLECTION MIRROR1 | 1 |
| 34 | 61.80J06G001 | A | SPRING MIRROR1 | 1 |
| 35 | 52.87319G001 | A | DMD THERMAL PAD 18*13*0.5t | 1 |
| 36 | 85.1A326G060 | A | SCREW PAN HEAD MECH M2.6*6 BLACK | 4 |
| 37 | 85.1A523G040 | A | SCREW PAN MECH M3*4 NYLON | 4 |
| 38 | 85.1A526G060 | A | SCREW PAN MECH M2.6*6 Ni NYLON | 6 |
| 39 | 85.1A626G040 | A | SCREW PAN MECH M2.6*4 BLACK NYLON | 11 |
| 40 | 85.1F126G060 | A | SCREW PAN MECH W/SF M2.6*6 Ni | 1 |
| 41 | 85.3A126.040 | A | SCREW CAP HEAT D7.0 MECH M2.6*4 Ni | 1 |
| 42 | 85.WA321G040 | A | SCREW PAN TAP M1.7*4 BLACK | 3 |
| 43 | 87.FL030G008 | A | WASHER FLAT 7*31*0.8t PC PINGOOD WS-1M | 2 |
| 44 | 52.85808G001 | A | PORON-LENS BLACK | 2 |
| 45 | 51.80J38G001 | A | MYLAR CW SUPPORT 739 FRPP 0.1Bt | 1 |
| 46 | 51.81542G001 | A | TAPE 3M J350 17*15mm | 1 |
| 47 | 52.80J05G002 | A | RELAY ANTIDUST 739 WT4L YMO6 SILICONE RUBBER | 1 |

Note: Please refer to RSPL for updated Part Number.

Top Cover Module (70.83G02G001) for MT series



| ITEM | PART NO. | REV | DESCRIPTION | Q'TY |
|------|--------------|-----|-----------------------------------|------|
| 1 | 41.83101G001 | A | KEYPAD FPC CORE 24.5*5*12 "GREEN" | 1 |
| 2 | 51.80S07G001 | A | ENTER KEY | 1 |
| 3 | 51.80S08G001 | A | FIX HOLDER | 1 |
| 4 | 51.80S14G001 | A | LED LENS RING | 1 |
| 5 | 51.80S35G001 | A | KEYPAD INSULATOR AL+MYLAR | 1 |
| 6 | 52.80S01G001 | A | KEY PAD SPRING | 1 |
| 7 | 52.80S02G001 | A | ENTER KEY SPRING | 1 |
| 8 | 51.81H09G001 | A | SUNSHADE ZOOM RING | 1 |
| 9 | 75.83G01G001 | A | ASSY TOP COVER & SHIELDING | 1 |
| 10 | 75.81H04G001 | A | ASSY BUTTON | 1 |
| 11 | 80.80S03G001 | A | PCBA KEYPAD BOARD | 1 |
| 12 | 85.TA123G060 | A | Screw Cap Tap M3x6 Ni | 4 |
| 13 | 51.81H08G001 | A | SUNSHADE SPEAKER | 1 |
| 14 | 51.81H15G001 | A | SUNSHADE LAMP-TOP | 1 |
| 15 | 42.80S02G001 | A | FFC CABLE 24P 100mm | 1 |
| 16 | 41.80S04G001 | A | EMI GASKET 5*5*20 mm | 3 |

Note: Please refer to RSPL for updated Part Number.

Appendix B

I. MT200 vs. MT400 Comparison Table

| MT200 | | | | MT400 | | | |
|---------------|------|----------------------------------|----------|--------------|------|--------------------------------------|----------|
| PN | Ver. | Description | Quantity | PN | Ver. | Description | Quantity |
| 70.81H01G001 | A | ASSY TOP COVER MODULE TDP-MT20 | 1 | 70.83G05GR01 | | ASSY TOP COVER MODULE TDP-MT400(RMA) | 1 |
| 70.81H12G001 | A | ASSY BOTTOM COVER MODULE TDP-M | 1 | 70.83G06GR01 | | ASSY BOTTOM COVER TDP-MT400(RMA) | 1 |
| 51.81H04G001 | B | ZOOM RING PC+ABS-CA02A TDP-MT200 | 1 | 51.83G01G001 | A | ZOOM RING PC+ABS-CA02A TDP-MT400 | 1 |
| 70.81H13G001 | A | ASSY ENGINE MODULE TDP-MT200 | 1 | 70.83G07GR01 | | ASSY ENGINE MODULE TDP-MT400(RMA) | 1 |
| 51.80S06G001 | A | FOCUS RING PC+ABS-CA02A TDP-T90 | 1 | 51.83G02G001 | A | FOCUS RING PC+ABS-CA02A TDP-MT400 | 1 |
| 48.81GDMGD-02 | A | DMD 854*480 PIXEL 0.5" 480P DD | 1 | 48.81DDMGD02 | A | DMD 1024*576 PIXEL 0.6" 576P D | 1 |
| 23.81H01G001 | B | HITTOH WT42 SVGA PROJECTION LE | 1 | 23.83F01G001 | A | YM10 PROJECTION ZOOM LENS FOR | 1 |
| 70.81H18G001 | A | ASSY M/B MODULE TDP-MT200 | 1 | 70.83G09GR01 | | ASSY M/B MODULE TDP-MT400(RMA) | 1 |
| 80.81H01G003 | F | PCBA MAIN BOARD MT200 | 1 | 80.83G01G001 | F | PCBA MAIN BOARD MT400 | 1 |
| 35.81H01G002 | A | LABEL SPEC TDP-MT200 | 1 | 35.83G01G001 | A | LABEL SPEC 69*41.5 TDP-MT400 | 1 |
| 36.81H01G001 | C | USER'S MANUAL USA+EUR MT200 FO | 1 | 36.83G01G001 | A | USER'S MANUAL USA+EUR MT400 FO | 1 |
| 39.81H02.001 | A | FW DIGITAL EDID CODE FOR MT200 | 1 | 39.83G02G001 | A | FW DIGITAL EDID CODE FOR MT400 | 1 |

II. T90A vs. S80 Comparison Table

| T90A | | | | S80 | | | |
|--------------|------|------------------------------------|----------|--------------|------|---|----------|
| PN | Ver. | Description | Quantity | PN | Ver. | Description | Quantity |
| 51.80S01G011 | A | TOP COVER PC+ABS-CA01A TD-T90A | 1 | 51.80S01G006 | A | TOP COVER PC+ABS CA01A TDP-S80 | 1 |
| 70.83L14GR01 | | ASSY ENGINE MODULE TDP-T90A(RMA) | 1 | 70.82C03G001 | A | ASSY ENGINE MODULE TDP-S80 | 1 |
| 48.82GDMGD01 | A | DMD 1024*768 PIXEL DDR FTP 0.5 | 1 | 48.859DMGD13 | A | DMD 800*600 PIXEL DDR FTP 0.55 | 1 |
| | | | | 48.859DMGD14 | A | DMD 800*600 PIXEL DDR FTP 0.55" SVGA | |
| 70.83L15GR01 | | ASSY COLOR WHEEL FOR TDP-T90A(RMA) | 1 | 70.82C04G001 | A | ASSY COLOR WHEEL TDP-S80 | 1 |
| 76.82G01G001 | A | BUY ASSY W.A. 2P 150mm LVPS/LA | 1 | 76.82C01G001 | A | OUTSIDE W.A. 150mm FOR PHILIPS | 1 |
| 42.89603G001 | A | W.A. 2P #22 3239 6KV FEMALE 30 | 1 | 42.82C01G001 | B | W.A. 5P UL1571 #28 200mm LVPS | 1 |
| 75.82G09G001 | A | ASSY PHILIPS LAMPDRIVER 200W | 1 | 75.88501G001 | D | ASSY PHILIPS LAMPDRIVER 2200MP | 1 |
| 80.83L01G001 | A | PCBA MAIN BOARD FOR T90A | 1 | 80.80S01G006 | I | PCBA MAIN BOARD TDP-S80 " | 1 |
| 39.83L01G001 | A | FW BIOS SOURCE CODE FOR T90A | 1 | 39.80S01G003 | A20 | FW FLASH ROM AM29LV160DB TDP-S | 1 |
| 23.82G15G001 | A | PHILIPS 200/150W 1.0 E19V INDE | 1 | 23.80S10G011 | A | LAMP COVER GLESS OF DP739 SER | 1 |
| | | | | 23.80S10G021 | A | LAMP COVER GLASS OF DP739 SERIES WITH MAR | 1 |
| 52.82G21G001 | A | LAMP INSULATOR SILICONE RUBBER | 1 | 52.80W12G001 | A | LAMP INSULATOR SILICONE RUBBER | 1 |

III. TW90A vs. TW91A vs.S80 Comparison Table

| PN | Ver. | Description | S80 | TW90A | T91A |
|--------------|------|--------------------------------------|-----|-------|------|
| 23.81H01G001 | B | HITTOH WT42 SVGA PROJECTION LE | V | | |
| 23.82W01G001 | B | NITTOH WT46 PROJECTION LENS ZO | | V | V |
| 35.82C01G002 | A | LABEL SPEC TDP-S80 | V | | |
| 35.83L08G001 | A | LABEL SPEC TDP-TW90A | | V | |
| 35.83L07G001 | A | LABEL SPEC TDP-T91A | | | V |
| 36.82C02G001 | B | USER'S GUIDE MULTILINGUAL S80/ | V | | |
| 36.80S17G001 | A | USER'S GUIDE MULTILINGUAL TW90 | | V | V |
| 36.82C03G001 | B | USER'S MANUAL USA+EUR S80/S81 | V | | |
| 36.83L04G001 | A | USER'S MANUAL USA+EUR TW90A FO | | V | |
| 36.83L02G001 | A | USER'S MANUAL USA+EUR T90A FOR | | | V |
| 45.80S01G001 | A | REMOTE CONTROLLER | V | | V |
| 45.80S02G001 | A | INFRARED REMOTE CONTROLLER TDP | | V | |
| 48.859DMD13 | A | DMD 800*600 PIXEL DDR FTP 0.55" SVGA | V | | |
| 48.82GDMGD01 | A | DMD 1024*768 PIXEL DDR FTP 0.5 | | V | V |
| 51.80S25G001 | A | OPTION COVER(BLANK) | V | | V |
| 51.80S25G003 | A | OPTION COVER W/WIRELESS PC+ABS | | V | |
| 53.80S01G001 | A | HARD CASE | V | V | |
| 53.80S02G001 | A | HARD CASE TDP-T91 | | | V |
| 55.80S01G001 | A | CARTON | V | V | |
| 55.80S02G001 | A | PAPRE CUSHION F | V | V | |
| 55.80S03G001 | A | PAPER CUSHION R | V | V | |
| 55.80S06G001 | A | PAPER CORNER 50*50*1230mm TDP- | | | V |
| 55.80S07G001 | A | CARTON B-14 TDP-T91 | | | V |
| 55.80S08G001 | A | PAPER CUSHION F TDP-T91 | | | V |
| 55.80S09G001 | A | PAPER SUPPORT FOR CABLE ARRANG | | | V |
| 70.82C03G001 | A | OPTICAL ENGINE S80 S81 | V | | |
| 70.83L02G011 | A | ASSY ENGINE MODULE TDP-TW90A | | V | V |
| 70.82C04G001 | A | ASSY COLOR WHEEL | V | | |
| 70.83L03G001 | A | ASSY COLOR WHEEL FOR TDP-T90A | | V | V |
| 75.80S06G011 | A | ASSY REAR COVER & SHIELDING T90 S80 | V | | |
| 75.80S06G003 | A | ASSY REAR COVER&SHIELDING TDP- | | V | V |
| 75.88501G001 | D | ASSY PHILIPS LAMPDRIVER 2200MP | V | | |
| 75.82G09G001 | A | ASSY PHILIPS LAMPDRIVER 200W(T | | V | V |
| 80.80S01G006 | B | PCBA MAIN BOARD S80 | V | | |
| 80.83L01G004 | B | PCBA MAIN BOARD FOR TDP-TW90A | | V | |
| 80.83L01G003 | B | PCBA MAIN BOARD TDP-T91A WITH | | | V |
| 80.80S02G002 | C | PCBA DMD BOARD | V | | V |
| 80.80S02G001 | D | PCBA DMD BOARD TDP-T90 FOR WIT | | V | |

Appendix C

I. Serial Number System Definition

Serial Number Format for Projector

AA BB CCCC
① ② ③

① : A = Year/Month (The numeral is fixed by Toshiba)

| | | | | | | | | | | |
|--------------|----------|----------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|
| NQ. | 47 | 94 | 86 | 10 | 68 | 79 | 12 | | | |
| Year / Month | 2004 / 6 | 2004 / 7 | 2004 / 8 | 2004 / 9 | 2004 / 10 | 2004 / 11 | 2004 / 12 | | | |
| NQ. | 30 | 74 | 89 | 34 | 51 | 77 | 65 | 41 | 98 | 71 |
| Year / Month | 2005 / 1 | 2005 / 2 | 2005 / 3 | 2005 / 4 | 2005 / 5 | 2005 / 6 | 2005 / 7 | 2005 / 8 | 2005 / 9 | 2005 / 10 |

② : B = Coretronic

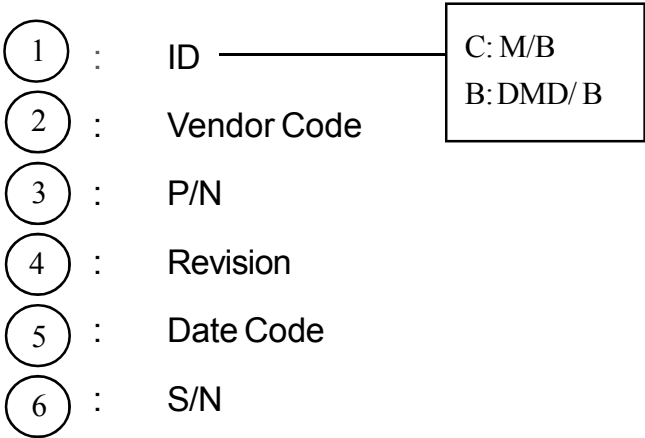
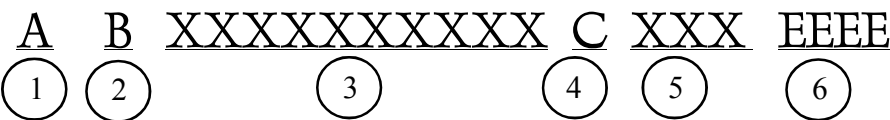
③ : C = Serial code (from 0001~)

EX : 51550301

This label “51550301” represents the whole serial number for T90. It’s produced on May, 2005. Vendor is Coretronic and its serial code is 0301.

II. PCBA Code Definition

PCBA Code for Projector



TOSHIBA Information Systems (UK) Ltd
Consumer Products Division, European Service Centre, Admiralty Way, Camberley, Surrey. GU15 3DT